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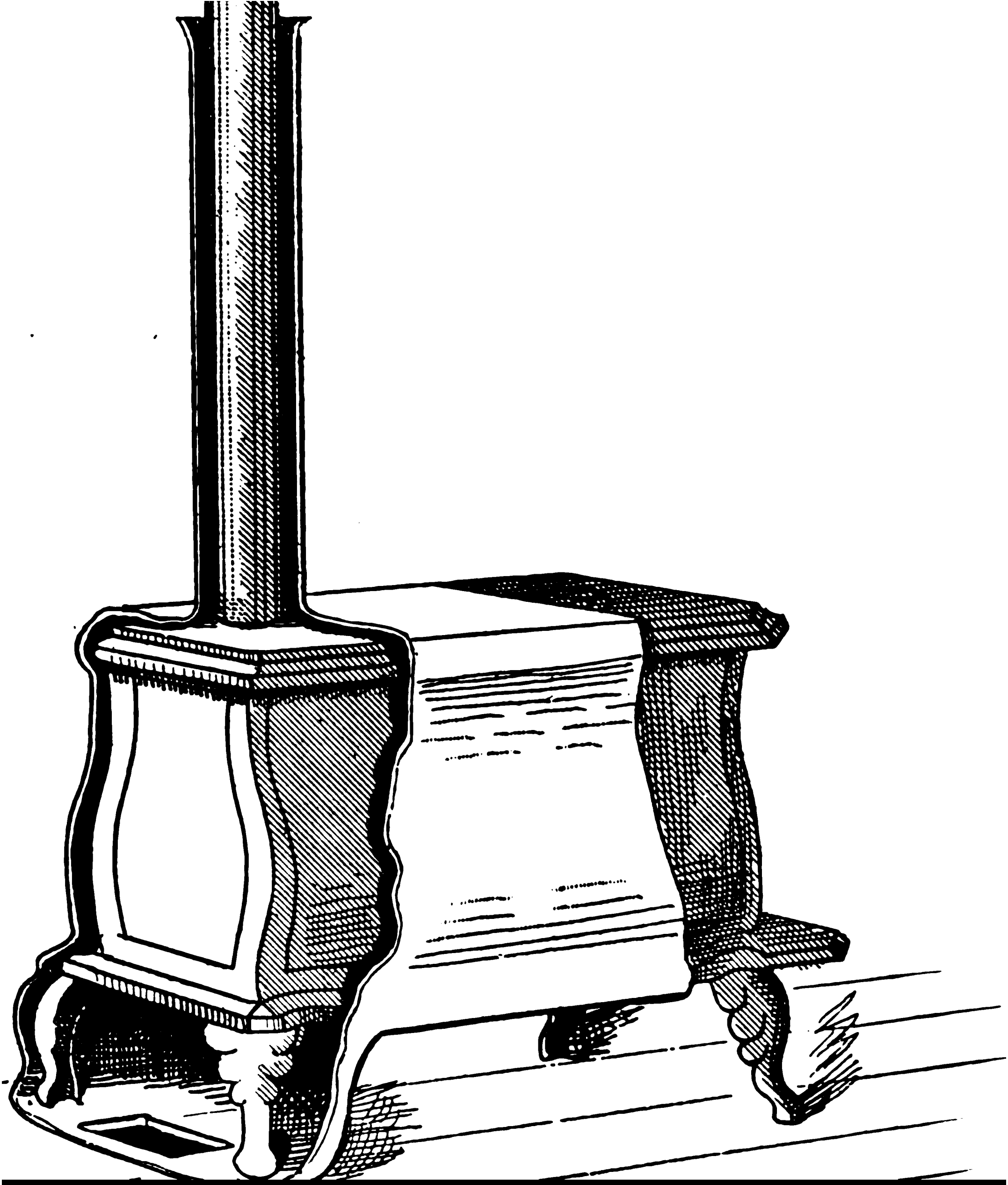

Annual report of the Indiana State Board of Health. 1887

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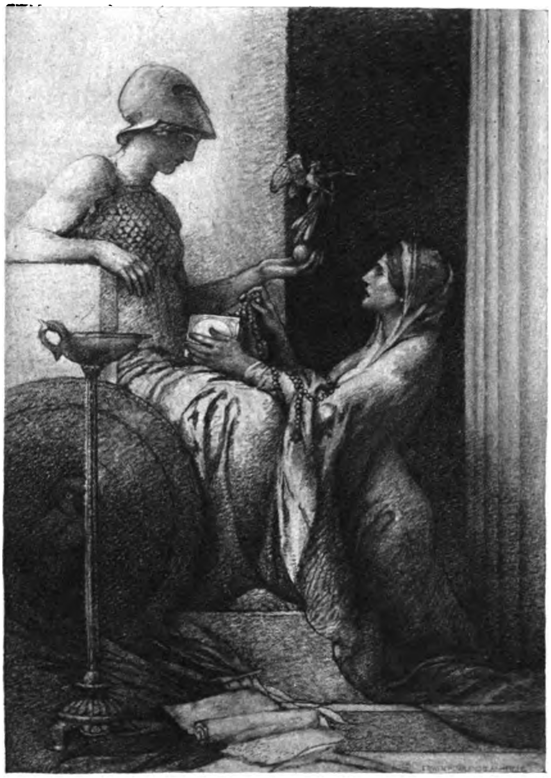

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SIXTH ANNUAL REPORT

OF THE

STATE BOARD OF HEALTH,

OF

INDIANA,

FOR THE

FISCAL YEAR ENDING OCTOBER 31, 1887.

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TO THE GOVERNOR.

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The Board

The State of Indiana,
Governor's Office, February 7, 1888.

Received, examined by the Governor, and referred to the Auditor of State for verification of financial statement.

Office of Auditor of State,
Indianapolis, February 8, 1888.

The financial part of the within report, so far as the same relates to moneys drawn from State Treasury, has been examined and found correct.

Bruce Carr,
Auditor of State.

February 8, 1888.

Returned by the Auditor of State with above certificate, and transmitted to the Secretary of State for publication upon the order of the Board of Commissioners of Public Printing and Binding.

Pierre Gray,
Private Secretary.

Received and filed in the office of the Secretary of State of the State of Indiana this 8th day of February, 1888.

Charles F. Griffin,
Secretary of State.

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BOARD OF HEALTH REPORT.

To Hon. Isaac P. Gray,
Governor of the State of Indiana:

The State Board of Health herewith presents its Sixth Annual Report for the fiscal year ending October 31, 1887, together with the vital statistics for the year ending September, 30, 1887.

From the manifest interest in matters pertaining to the public health by the people, we feel warranted in saying that marked progress has been made in sanitary science. This conviction is strengthened by the readiness with which the public generally comply with all reasonable regulations for the prevention of contagious and infectious diseases. The interest taken in these matters is further evidenced by the fact that applications for reports of this Board are almost daily received. In fact, so great has been this demand that the number allowed by law (three thousand copies) is wholly inadequate.

When, however, we consider our population, two million, it can readily be seen that this small number of copies will supply comparatively few. It is needless to say that the number now authorized by law should be largely increased in order that this growing demand may be supplied. Within the year embraced in this report the members of the Board have made sanitary inspections of penitentiaries, jails, county poor asylums, together with all the State benevolent institutions. It is believed that these inspections have aroused a general interest in those who have charge of these institutions, and that much good has been accomplished. In fact, many instances are known where improvements were made as soon as possible after defects were pointed out. Perhaps never in the history of our State has the general health been so good as within the past year. There has been no serious epidemic. The number of deaths from zymotic or filth diseases has been few. This in itself is strong evidence that the causes of these diseases have been lessened by improved sanitation, and that there has been a more careful observance of some of the well-known laws of hygiene.

It is due to the public press of the State to say that this marked progress in sanitary science is largely due to the hearty manner in which they have seconded every effort on the part of the Board to ameliorate the condition of the people. In every instance, so far as has come to our knowledge, the newspapers have advocated compliance with the suggestions promulgated by health officers, and have thus been a great power for good.

We feel justified in quoting the following from the admirable report of Irving A. Watson, M. D., Secretary of the New Hampshire State Board of Health, believing that it is equally applicable to our State:

"No educational advancement has been more marked in this State than that of sanitary science. The most noticeable indications of this are the demand for local boards of health that shall do something more than draw their salaries; the construction of public buildings upon a better sanitary basis; a better knowledge of the prevention of zymotic diseases; a more rational view of the avoidance of contagious diseases among children, and a higher appreciation of the value of domestic sanitation."

A subject which has been the cause of more or less controversy since the organization of the Board, viz: the appointment and dismissal of Clerks of the Bureau of Vital and Sanitary Statistics, has been finally settled by a decision of the Supreme Court, which is given in full in another part of this report.

The medical law enacted by the Legislature of 1885, has, in some quarters, and by a certain class of physicians, been violently opposed. This opposition, as was stated in a former report, came chiefly from those who found it difficult to comply with its provisions, owing to a lack of sufficient qualifications. All doubts as to the constitutionality of the law are happily dispelled by decisions of the Supreme Court, sustaining it in all respects.

In compliance with an act of the General Assembly to regulate the practice of dentistry in the State of Indiana, approved March 7, 1887, the Board, on the 28th of June, as provided in said act, appointed Dr. E. J. Church, of Laporte, a member of the Board of Examiners, to examine applicants for license to practice dentistry. His term of service is for two years from the date of his election.

We have repeatedly urged the necessity of amendments to the law creating this Board. In another part of this report will be found a bill which was introduced in the Senate at the last session of that body. It was referred to the Committee on Public Health, and returned with favorable recommendations. We believe that if the bill had become a law that it would have aided very materially in collecting vital and sanitary statistics. Under the present law this part of the work of the Board is very incomplete and unsatisfactory. It is hoped that in time the law will be so amended as to render it more efficient, and will enable us to keep pace with other States in this particular. From the large number of applications received for the services of a State Veterinarian it is very evident that such an officer is highly appreciated by the people. In the absence of a fund to pay him not as much has been accomplished as might have been had there been an appropriation available for this purpose. The last Legislature passed a bill providing for a Cattle Commission, but owing to the unfortunate muddle in that body it failed for want of the signature of the Speaker of the House of Representatives. While such a law would doubtless accomplish much good, we are of the opinion that a State Veterinarian under the control of this Board could accomplish all that such a Commission could, and with much less expense to the State.

Elsewhere in this report will be found a statement of Dr. E. H. Pritchard upon his work for the past year.

FINANCIAL EXHIBIT.

The following is a statement of the receipts and expenditures for the fiscal year commencing November 1, 1886, and ending October 31, 1887.

All accounts have been submitted to the Board for its consideration at its regular meetings, and when allowed have been certified by the President and Secretary, and audited by the Auditor of State, before warrants were drawn for the same.

Out of the annual appropriation of five thousand dollars, to carry on the work of this department, the members have been paid all actual expenses incurred by attending regular and special meetings of the Board, as well as expenses caused in making sanitary inspections of various sections, and the different public institutions under the control of the State Government. (Report of inspections made by the members of the Board will be found in another part of this report.) From our fund we pay office rent and current expenses of the same, the Secretary and Clerks' salaries, printing bills, including all publications of the Board, except the Annual Report. The Board supplies all of the city, county and town health boards, with physicians' blanks for the return of births, deaths, contagious and infectious diseases, county clerks blanks for the purpose of making returns of marriages, and furnishes county boards of health with blanks to make regular quarterly reports, as well as blanks for special reports of contagious and infectious diseases, preventable disease circulars for general distribution among the people, and the rules and regulations of the Board, for the government of physicians and health officers, programmes, and all necessary printing for sanitary conventions held in the State. The failure of the last General Assembly to pass the General Appropriation Bill, does not cripple this department of the State Government, as the money to defray its annual expenses, was wisely provided for in the Act of the Legislature creating it.

We have no balance after meeting all of the obligations for the year ending October 31, 1887.

RECEIPTS.

By appropriation	$5,000 00

DISBURSEMENTS.

Expenses of Members.

S. S. Boots	$108 60
W. A. Fritsch	307 00
Wm. Lomax	41 17
S. R. Seawright	209 95
John N. Taylor	79 30

Salaries.

C. N. Metcalf, Secretary	1,200 00
D. N. Berg, Clerk	1,000 00
Florence M. Stewart, Clerk	600 00

Miscellaneous.

C. N. Metcalf, traveling and office expenses	311 09	
Postage	75 00	
S. W. Burns, janitor	101 00	
Wm. B. Burford, printing	508 43	
Byfield & Howland, attorneys	100 00	
Rent	240 00	
Insurance	8 63	
Postal Guide	1 50	
Sanitary News	7 50	
Sanitarian	4 00	
Gas	14 40	
Ice	5 93	
John C. Shoemaker, printing	2 50	
E. H. Pritchard, veterinarian	21 00	
John N. Navin, veterinarian	27 00	
C. E. Petty, livery	8 00	
W. I. Ripley, livery	5 00	
Ashman & Blickenstaff, livery	13 00	
Total		5,000 00

LIBRARY.

The library embraces a collection of works by recognized authorities on diseases of domestic animals, bacteria, cholera, drainage, food, hygiene, preventive medicine, sanitary science, sewers and sewage, small-pox, suicide, typhoid fever, water, zymotic diseases and miscellaneous works.

As there was a constant demand for works of this character by health officers, physicians and others who desired to pursue the study of sanitary subjects and matters relating to public health, the Board adopted a rule authorizing the Secretary to loan these works to responsible parties who wished to investigate subjects of interest to the department, or who desired to use them in discussions before societies or conventions interested in the advancement of sanitary science. The following is a complete catalogue of the books belonging to the library:

AMERICAN HEALTH PRIMERS, TITLES AS FOLLOWS:

Brain Work and Overwork	Wood.
Eyesight and How to Care for It	Harlan.
Hearing and How to Keep It	Keen.
Long Life and How to Reach It	Richardson.
Our Homes	Hartshorn.
Sea Air and Sea Bathing	Packard.
School and Industrial Hygiene	Lincoln.
Summer and Its Diseases	Wilson.
The Mouth and the Teeth	White.
The Skin in Health and Disease	Bulkley.
The Throat and the Voice	Cohen.
Winter and Its Dangers	Osgood.

APPLETON'S HEALTH PRIMERS.

Baths and Bathing.
Exercise and Training.
Personal Appearances.
Premature Death—Its Promotion or Prevention.
The House and Its Surroundings.
The Heart and Its Functions.
The Nervous System.
The Skin and Its Troubles.

ANIMALS AND THEIR DISEASES.

Actinomykosis	Flemming.
Animal Diseases—Their Relation to Public Health	Billings.
Animal Plagues (2 vols.)	Flemming.
Contagious Diseases of Cattle	Flemming.
Contagious Diseases of Domestic Animals	U. S. Bureau.
Diseases of Live Stock	Tellor.
Human and Animal Variola	Flemming.
Lung Plagues Among Cattle	Law.
Veterinary Science	Williams.

BACTERIA.

Bacteria	Maguire.
Bacteria and the Germ Theory	Gradle.

DRAINAGE.

Agricultural Drainage	Denton.
Drainage	Gerhardt.
Drainage for Health	Wilson.
Farm Drainage	French.
House Drainage and Water Sewer	Bayles.
Land Drainage	Reeves.
Our Homes	Murphy.

FOOD.

Food and Poisons	Blythe.
Health in Diet	English Conference.

HYGIENE.

Bazar Book of Health	Harper.
Bible Hygiene	By a physician.
Hand Book of Hygiene	Wilson.
Health in Relation to Civic Life	English Conference.
How to Live	Wilson.
Hygiene and Public Health (2 vols.)	Buck.
Health	Corfield.
Maintenance of Health	Fothergill.

PREVENTIVE MEDICINE.

Eyesight, Good and Bad	Carter.
Dangers to Health	Teale.
Preventive Medicine	Richardson.
Seven Sources of Health	Strange.

SANITARY SCIENCE.

American Sanitary Engineering	Philbrick.
Dwelling Houses	Corfield.
Hand Book of Sanitary Science.	Marsh.
Health in the Dwelling	English Conference.
House Sanitation	Denton.
Mechanics of Ventilation	Rafter.
Sanitary Care and Treatment of Children	Anderson and Jacobi.
Sanitary Construction of Dwellings	Corfield.
Sanitary Condition of Houses	Waring.
Sanitary Engineering	Latham.
Sanitary Plumbing	Helyer.
Sanitarian, The	Bell.
Steam Heating	Waldon.
Ventilation and Warming	Drysdale and Hayward.
Ventilation	Leeds.
Ventilation	Billings.
Ventilation of Buildings	Butler.

SEWERS AND SEWAGE.

Disposal of Sewage	Robinson.
Sewers and Drains	Adams.
Sewers and Gases	De Varona.
Sewage Poisoning	Blake.
Sewage and Its Utilization	Corfield.

SEPULTURE.

Sepulture.	Wicks.

SUICIDE.

Suicide.	Morcelli.
Suicide.	O. Dea.

VACCINATION.

Essentials of Vaccination	Hardway.
Vaccination	Edwards.
Vaccination	Seaton.

WATER.

Potable Water	Folkhard.
Examination of Water	Fox.
Water	Parry.
Water Analysis	McDonald.
Water and Water Supply	Corfield.
Water Supply.	Nichols.

ZYMOTIC DISEASES.

Bovine Tuberculosis in Man	Creighton.
Cholera	McPherson.
Cholera, Asiatic, History of	Macnamara.
Cholera in Europe, 1884	Consul's Report.
Cholera in United States, 1873	Woodworth.
Contagious Diseases	Morgan.
Contagiousness of Consumption	Burney Yeo.
Common Nature of Epidemics	Smith.
Diphtheria	Jacobi.
Diphtheria	Semple.
Euteric Fever.	Welch
Epidemics of the Middle Ages	Hecker.
Erysipelas and Child-bed Fever.	Minor.
History of Epidemics	Bascome.
Hospitalism and Zymotic Diseases	Kennedy.
Inquiry into Physical Causes of Epidemics	Howe.
Malaria	Edwards.
Relation of Micro Organism	Belfield.
Remote Causes of Epidemics	Parkin.
Scarlatina Statistics	Minor.
Syphilis and Marriage	Fournier.
The Great Social Evil	Logan.
Tuberculosis	Sattler.
Typhoid Fever	Budd.
Yellow Fever, Memphis Epidemic.	Keating.
Yellow Fever, Louisiana, 1878	
Zymotic Diseases	Wolf.

MISCELLANEOUS.

Alcoholic Inebriety	Parish.
Aristology, or Art of Dining	Walker.
Art of Prolonging Life.	Hufland.
Causes of Color Among Races	Sharp.
Color Blindness	Jeffries.
Diseases of Interior Valley of North America	Drake.
Drugs that Enslave	Kane.
Floating Matter in the Air.	Tyndale.
Hospitals and Infirmaries	Oppert.
Human Faculty and Its Development	Galton.
Human Body	Martin.
Inter-Marriage	Walker.
Labor Among Primitive People	Englemen.
Legal Medicine (2 vols)	Tidy.
Medical Nursing	Anderson.
Mineral Springs.	Walton.
Nurse's Companion	Culingworth.
Philosophy of Marriage	Ryan.
Physical Education	Oswald.

Principles and Practice of Medicine	Williams.
Sulphate of Quinine.	Manson.
The Black Arts of Medicine	Jackson.
The Jukes	Dugdale.
The School Laws of Indiana	Holcombe.
Vital Statistics	Plunkett.
What Every Mother Ought to Know	Ellis.

REPORTS OF STATE BOARDS OF HEALTH.

Alabama, 1875 to 1885, inclusive.
California, 1870 to 1887, inclusive.
Connecticut, 1878 to 1886, inclusive.
Delaware, 1879, 1880 to 1885, inclusive.
Illinois, 1879 to 1886, inclusive.
Iowa, 1881 to 1885, inclusive.
Kansas, 1885 and 1886. First and Second Annual Reports.
Kentucky, 1880 to 1883, inclusive.
Louisiana, 1872 to 1884, inclusive.
Maine, 1885 and 1886. First and Second Annual Reports.
Maryland, 1886.
Massachusetts, 1870 to 1886, inclusive.
Michigan, 1872 to 1885, inclusive.
Minnesota, 1874 to 1887, inclusive.
New Hampshire, 1882 to 1887, inclusive.
New Jersey, 1878 to 1884, inclusive.
New York, 1880 to 1886.
North Carolina, 1887.
Ohio, 1886. First Annual Report.
Pennsylvania, 1886. First Annual Report.
Rhode Island, 1879 to 1886, inclusive.
South Carolina, 1884 to 1886, inclusive.
Tennessee, 1877 to 1880, inclusive.
West Virginia, 1884 to 1886, inclusive.
Wisconsin, 1876 to 1886, inclusive.

MEDICAL SOCIETY REPORTS.

*Alabama, 1870, '75, '80, '81, '85.
Indiana, 1875 to 1886, inclusive.
Maryland, 1881, '82, '85, '86.
Missouri, 1883.
Nebraska, 1880, '81, '82, '83, '84.
New Hampshire, 1885, '86.

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*State Board of Health and Medical Society one organization.

INDIANA REPORTS.

Acts of the Regular and Special Sessions.
Agricultural.
Auditor.
Secretary.
Geologists.
Opinions of Attorney General Hord, 1884.
Superintendent Public Instruction.
The Annual Reports of Indiana.
The House Journals.

UNITED STATES REPORTS.

Bureau of Animal Industry. First and Second Annual Reports, 1885, '86.
Bureau of Education.
Bureau of Ethnology.
Chief of Engineers, U. S. Army.
Department of Agriculture.
Geological Surveys of the U. S.
Hygienic and Medical Reports. Navy Department.
Marine Hospital Service.
National Board of Health.
National Museum.
Secretary of the Treasury on Epidemic Fund, 1884.
Smithsonian Institute.
Surgeon General of the Navy.
Tenth Census United States. (Vols. 1 to 20 inclusive, maps and compendium.)
The American Public Health Association. (Vols. 1 to 12 inclusive.)
Treasury Cattle Commission, 1882.
United States Medical and Surgical Directory, War Department.

REPORTS—MISCELLANEOUS.

Annual Report City of Brooklyn, 1887.
  Boston.
  District of Columbia.
  Montreal.
  New York.
  Ontario.
Medical Education and Medical Colleges, United States and Canada, 1865 to 1886.
Master Plumbers' Association.
Paris Electrical Exhibition, 1881.
Proceedings National Conference State Boards of Health.
Report American Public Health Association on Disinfectants, 1885.
Proceedings of the New Orleans Sanitary Conference, 1884.
Prize Essays American Public Health Association.

Proceedings Michigan Sanitary Conference.
Public Water Supply, City of Memphis, 1886.
Quarantine and Operation of Louisiana Board of Health.
Sanitary News, Chicago.
Ship's Medical Chest. Hand-Book Marine Hospital Service.
Bible.
City Directory.
Johnson's Encyclopedia.
Medical Dictionary, Dungleson.
Pronouncing Medical Dictionary.
Scrap Book.
State Gazetteer.
United States Postal Guide.
Webster's Unabridged Dictionary.

THE BOARD.

The members of the Board and terms of office are as follows:

Samuel R. Seawright, M. D., President, Lafayette; term expires February, 1889.

Wm. A. Fritsch, M. D., Evansville; term expires February, 1889.

Samuel S. Boots, M. D., Greenfield; term expires February, 1891.

John N. Taylor, M. D., Crawfordsville; term expires February, 1891.

Chas. N. Metcalf, M. D., Secretary, Indianapolis; term expires November, 1889.

A glance at the above shows that since the preparation of our last report there has been a change in the membership of the Board. Upon the expiration of the terms of office of Dr. Boots and Dr. Lomax in February, 1887, the Governor appointed Dr. Boots and Dr. Taylor to fill the offices thus made vacant.

At the first meeting of the Board, March 29, 1887, after the retirement of Dr. Lomax, Dr. Fritsch submitted the following preamble and resolution for the consideration of the Board, which were unanimously adopted, with directions that the Secretary transmit a copy of the same to Dr. Lomax.

WHEREAS, Dr. Wm. Lomax has ceased to be a member of this Board by reason of the expiration of his term of office; therefore,

Be it Resolved, That Dr. Lomax has been a good, faithful counselor at our meetings. Appointed when the Indiana State Board of Health was first organized, he brought to the discharge of his duties learning and experience as a physician and sanitarian, and his counsels were at all times of great value to the public welfare of the State.

As our friend after six years of continuous service now retires from duty on the Board, we wish him in his future walks of life success and happiness, which he so much deserves.

CLERKS OF THE BOARD.

Soon after the organization of this Board, a controversy arose between its Secretary and the Secretary of State in reference to the appointment and dismissal of the Clerks of the Bureau of Vital and Sanitary Statistics created by the Act approved March 7, 1881.

The latter clause of section 4992, Revised Statutes of 1881, being a part of said act, reads as follows: "The clerical duties and safe keeping of the Bureau of Vital and Sanitary Statistics thus created shall be provided for by the Secretary of State upon a requisition of the Secretary of the State Board of Health, approved by the President thereof." The present Secretary of State assumed that under this statute he had the right to appoint and dismiss the clerks of this Board at will, as well as fix their salaries. This view of the matter was also shared by the learned Attorney General, as shown by an opinion of that officer published herewith:

Hon. Charles F. Griffin, Secretary of State:

SIR—You have put to me the following question: "Are the necessary clerks for the State Board of Health appointed or employed by that Board or by the Secretary of State?"

Section 4992, R. S. 1881, is as follows: "The State Board of Health shall have supervision of the system of registration of births, deaths and marriages, as herein provided, and they shall make up such forms, and shall, from time to time, recommend such legislation as they shall deem necessary for the thorough registration and report of vital and sanitary statistics throughout the State. The Secretary of the Board shall be superintendent of all such registrations; and the clerical duties and safe keeping of the Bureau of Vital and Sanitary Statistics, thus created, shall be provided for by the Secretary of State, upon requisition by the Secretary of the State Board of Health, approved by the President thereof."

The last sentence of this section gives to the Secretary of State the sole power to employ or provide such clerks as may be necessary to perform the "clerical duties" of the Bureau of Vital and Sanitary Statistics.

You will observe that the language "shall be provided for by the Secretary of State," is imperative or mandatory. What interpretation shall be put upon the word "provided?" Webster defines the word "provide" as meaning "to furnish, to supply."

In the charge of Justice McLean, reported in 5 McLean, 306, the meaning of the word "provide" was considered, and it was held to be equivalent in meaning to the word "furnish." Again, the word "provided" is defined by Webster as meaning "supplied, furnished."

In view of the language used in the statute I am driven to the conclusion that you select and appoint the clerks who perform the "clerical duties for the Bureau of Vital and Sanitary Statistics," and that they hold their places at your will only; you appoint when you please and discharge at your pleasure.

It is true you appoint on the requisition of the State Board of Health, but this does not give that Board the power to say who you shall appoint, nor what his term shall be. The Board may ask for a certain number of clerks, but it can not name the persons.

It was the purpose, as gathered from the entire act, to make you a check on the Board of Health to the end that the duties of the Board might be performed carefully and economically. Therefore you are responsible for the safe keeping of the Bureau of Vital and Sanitary Statistics for the performance of its clerical duties, and for providing a suitable office for the Board of Health. See sec. 4999.

The Board of Health selects its own Secretary (sec. 4989), but the statute does not empower the Board to employ any clerks.

I, therefore, say that you have the power to remove and appoint such clerks at your pleasure, and to fix their compensation. They are your own clerks in legal contemplation.

Respectfully,
L. T. MICHENER,
Attorney General.

Accordingly, on the 2d day of February, 1887, the following correspondence was had, which explains itself:

STATE OF INDIANA,
DEPARTMENT OF STATE,
INDIANAPOLIS, February 2, 1887.

Dr. C. N. Metcalf, Secretary State Board
of Health of the State of Indiana:

DEAR SIR—I have the honor to inform you that in accordance with the opinion of the Attorney General of the State of Indiana, this day filed in my office, and the powers and duties vested in me as Secretary of State of the State of Indiana, by virtue of section 4992 of the Revised Statutes of 1881, and in accordance with the requisition issued by you as Secretary of the said Board to Hon. William R. Myers, Secretary of State, on the 9th day of May, 1885, calling for two clerks for service in the office of said Board and to perform the clerical duties of the Bureau of Vital and Sanitary Statistics of said State, I have this day removed Miss Florence Stewart as such Clerk and appointed James D. Walker to succeed her in the performance of such duties, said removal and appointment to take effect on the 3d day of February, 1887. I am

Yours respectfully,
CHARLES F. GRIFFIN,
Secretary of State.

DEPARTMENT OF STATE,
INDIANAPOLIS, Feb. 2, 1887.

Miss Florence Stewart, Clerk Bureau of
Vital and Sanitary Statistics, Indianapolis, Ind.:

DEAR MADAM—I have the honor to inform you that, in accordance with the powers and duties vested in me as Secretary of State of the State of Indiana, by Section 4992, Revised Statutes 1881, I have this day appointed James D. Walker to succeed you as Clerk of the Bureau of Vital and Sanitary Statistics of said State, said appointment to take effect on and after February 3, 1887, and that on and after said date your services will be no longer required as such Clerk. I am,

Yours respectfully,

CHARLES F. GRIFFIN,
Secretary of State.

INDIANA STATE BOARD OF HEALTH,
OFFICE OF THE SECRETARY.
INDIANAPOLIS, Feb. 3, 1887.

Hon. Charles F. Griffin,
Secretary of the State of Indiana:

DEAR SIR—Your communication of the 2d inst. received. In reply will say that the present clerical force is competent, and not only gives perfect satisfaction to me, but also to the majority of the Board. If at any time we need additional clerks, we will, in accordance with the law (section 4992 Revised Statutes 1881) make a requisition on you for the same.

Yours respectfully,

C. N. METCALF,
Secretary Indiana State Board of Health.

The Board denying the right of the Secretary of State to appoint a clerk without first being required so to do, retained Miss Stewart, and at the end of the quarter gave her a voucher for her salary. This she presented to the Auditor of State, but that officer refused to issue his warrant for the amount, basing his action upon an opinion of the Attorney General, as follows:

Hon. Bruce Carr, Auditor of State:

SIR—I am in receipt of your request for answers, to the following questions:

First. Is the Auditor of State authorized to issue warrants upon the State Treasury, on vouchers made out and approved only by the Secretary of the State Board of Health?

Section 4991, R. S. 1881, is as follows: "The Secretary shall receive an annual salary not to exceed twelve hundred dollars, which shall be fixed by the State Board of Health. The Board shall quarterly certify the amount due him, and, on presentation of such certificate, the Auditor of State shall draw his warrant on the State Treasurer for the amount. The members of the Board shall receive no compensation for their services, but their traveling and other necessary expenses while employed on the business of the Board, shall be allowed and paid upon an itemized account, verified under oath by the member in whose favor the claim is made."

This statute requires that the State Board of Health shall quarterly certify to you the amount due to the Secretary of the Board, and on presentation of that certificate you are required to draw your warrant on the Treasurer of State for the amount named therein.

If any member of the Board has any claim for traveling or other necessary expenses, while employed on the business of the Board, he should file with you an itemized account thereof, verified by his oath, and it then becomes your duty to issue your warrants on the Treasurer of State for the amount of such claim. You have no power to issue such warrant on the vouchers made out and approved only by the Secretary of the Board.

Second. Does the law require that all accounts of expenditures in connection with this Bureau, must be passed upon by the Board, and approved by the President thereof, or is the Auditor of State authorized to issue his warrant for such accounts, upon the approval of the Secretary of said Board?

The section of the statute above quoted, provides for the payment of the salary of the Secretary, and for the traveling and other necessary expenses of the individual members of the Board, while employed on the business of the Board, but it does not direct, in terms, how the other expenditures of the Board shall be paid. Section 5000, R. S. 1881, is as follows: The sum of five thousand dollars per annum, or so much thereof as may be necessary, is hereby appropriated to pay the salary of the Secretary, and other necessary expenses of the State Board of Health, according to the provisions of this act; and the expenses of the State Board of Health shall in no event exceed the amount herein appropriated.

This section appropriates the money which may be expended for the Board annually. I do not find in the statutes any specific direction prescribing the manner of expending this money other than the payment of the salary of the Secretary and the personal expenses of members of the Board. Therefore, I conclude that in the making of other expenditures the general statutory rules for the disbursement of the other funds of the State are applicable. In my opinion you should not draw any warrant on the Treasurer of State for the expenditures of the Board on the approval of the Secretary alone, but you should require the certificate of the Board to the effect that a certain amount is due to a person named in an account stated and filed with the certificate. You must be satisfied that the account or claim is a proper one to be paid out of this appropriation and that it has been approved by the Board itself. Section 4992, R. S. 1881, is as follows: "The State Board of Health shall have supervision of the system of registration of births, deaths and marriages as herein provided, and they shall make up such forms, and shall from time to time recommend such legislation as they may deem necessary for the thorough registration and report of vital and sanitary statistics throughout the State. The Secretary of the Board shall be superintendent of all such registration; and the clerical duties and safe keeping of the Bureau of Vital and Sanitary Statistics thus created shall be provided for by the Secretary of State upon requisition of the Secretary of the State Board of Health, approved by the President thereof." The last sentence of this section requires the Secretary of State to provide the clerical duties and safe keeping of the Bureau of Vital and Sanitary Statistics. I recently gave to the Secretary of State an opinion in which I held that this section empowered him to appoint the clerical force necessary to the proper performance of the duties of this particular Bureau over which the State Board of Health has supervision. These clerks are the clerks of the Secretary of State, but they perform their duties under the supervision of the State Board of Health. They are paid out of the annual appropriation of $5,000 made to the State Board of Health. As they are the clerks of the Secretary of State it follows that the fixing of the amount of their salaries and the payment thereof is under the control of that officer, for he is responsible for the proper performance of their duties. It would be idle to require him to provide such clerks and hold him responsible for their acts, and yet deny him the power to fix their salaries and make payment thereof. Therefore, I advise that you require the Secretary of State to certify to you the amount due each clerk, and accompany the certificate by the claim of the clerk for the salary due him. When that is done you should draw your warrant on the State Treasurer for the amount and charge it to the appropriation I have named. Section 4999 is as follows: "It shall be the duty of the Secretary of State to provide a suitable office for the meetings of the State Board of Health and for the Secretary thereof." This statute makes it the duty of the Secretary of State to provide a suitable office for the State Board of Health. If he rents rooms for the office use of the Board the rent of such rooms should be expended by him in the same manner that the clerks are paid. It was the evident intent of the Legislature not to give to the State Board of Health unlimited powers, but to restrict and limit them, and, in the particulars I have named, make responsible an officer of the State, elected by the people and under bond for the proper performance of his duties, which include, of course, the disbursement of moneys.

3. When, and how often should these accounts be paid, including the salaries of the Secretary and clerks.

By virtue of section 4991 the Secretary is entitled to his pay quarterly. There is nothing in the statute concerning the Board of Health, fixing the time of paying the clerical force, from which I infer a legislative intent that such payment should be controlled by the general laws applicable. Section 6013 is as follows: "No law of this State, regulating the salaries of public officers, shall be so construed as to permit such officers to draw or receive their salaries in advance." And 6013 reads: "The several sums herein allowed, payable out of the State Treasury, shall be paid quarterly, as provided by law, out of any moneys in the Treasury not otherwise appropriated." The statutes, and the departmental practice in vogue at the time of the creation of the State Board of Health, I think, clearly define the purpose of the Legislature, that all salaries of officers and clerks should be paid quarterly, and not in advance. Wherever there is a command in our statutes concerning the time of payment of the salaries of officers and clerks, it is to the effect that such payments shall be made quarterly. I, therefore, advise you to draw such warrants at the end of each quarter.

Dated at Indianapolis this 16th day of February, 1887.

Respectfully submitted.

L. T. MITCHENER,
Attorney General.

The Board, therefore, brought an action in the Superior Court of Marion County to compel the Auditor to issue his warrant, Byfield & Howland appearing for the Board, and the Attorney General for the Auditor. After argument by counsel the Court unanimously decided against the Auditor. An appeal was then taken to the Supreme Court, which affirmed the decision of the lower Court, as will be seen by the following opinion of said Court, written by Hon. Geo. V. Howk, Judge, and confirmed by all the other Judges.

No. 13,760.

CARR, AUDITOR, *v.* THE STATE EX REL. STEWART.

From the Marion Superior Court.

L. T. Michener, Attorney General, and *J. H. Gillett*, for appellant.

C. Byfield and *L. Howland*, for appellee.

Howk, J.—In this case appellee's relatrix, Florence M. Stewart, upon her verified complaint herein, moved the court below for an alternative writ of mandate requiring appellant, Bruce Carr, Auditor of State of the State of Indiana, to issue his warrant on the State Treasurer, in favor of such relatrix, for the payment of $100 for clerical duties by her performed during February and March, 1887, in the Bureau of Vital and Sanitary Statistics, or show cause why he should not issue such warrant. Appellant appeared voluntarily, and, waiving the issue of an alternative writ of mandate, answered specially in bar of the action. The relatrix's demurrer to such answer was sustained by the court, at special term. To this ruling appellant excepted at the time, and, declining to amend or answer further, the court rendered judgment against him in favor of relatrix, for a peremptory writ of mandate, with costs, as demanded in her complaint. On appeal, this judgment was in all things affirmed by the general term; and from the judgment of the general term this appeal is now here prosecuted.

Error was assigned by appellant in general term, and is properly presented here, upon the sustaining of relatrix's demurrer to appellant's answer herein.

It is necessary, we think, to a proper understanding of this case and of the questions to be decided therein, that we should first give a summary of the facts stated by relatrix in her verified complaint. She alleged that under and pursuant to the provisions of an act of the General Assembly of this State, entitled "An act establishing a State Board of Health, defining its purposes, powers and duties; providing a system of registration and report of vital and sanitary statistics in connection therewith, and prescribing the duties of certain State, county, township and city officers in relation thereto, and prescribing penalties for violation of certain provisions thereof," approved March 7, 1881, which act took effect and became a law on the 19th day of September, 1881, the State Board of Health was created, and on November 3, 1881, was fully organized, and then entered upon, and has since continued in, the discharge of its duties as prescribed by law; that afterwards, on May 9, 1885, the State Board of Health, in the discharge of its duties, under the above entitled act, needing clerks to perform clerical duties in the "Bureau of Vital and Sanitary Statistics," created in and by section 7 of such act (section 4992, R. S. 1881), made its requisition upon the then Secretary of State for two clerks to perform such clerical duties; that on the day last named, and upon such requisition, the then Secretary of State designated and provided the relatrix herein as one of such clerks to perform such clerical duties for the State Board of Health; that, in pursuance of such requisition and of such action thereon by the then Secretary of State, the relatrix on such last named day entered upon the performance of such clerical duties as were required of her by the State Board of Health, at the salary then agreed upon between her and such State Board, of $50 per month; and that since May 9, 1885, continuously until the filing of her complaint herein, the relatrix had fully performed her clerical duties in such "Bureau of Vital and Sanitary Statistics," to the entire satisfaction and under the orders and directions of the State Board of Health, and that, during all of such time, she performed no work whatever in connection with the duties of the Secretary of State, or under his control or direction, except as herein stated; that for all such clerical work so performed by her the relatrix had been regularly paid at the rate of $50 per month, upon vouchers issued to her by the State Board of Health, directed to the Auditor of State, who regularly issued his warrants therefor, from time to time, upon the Treasurer of State, except for the months of February and March, 1887; and that for clerical services so performed by her during such two months, there was due her and unpaid the sum of $100.

And the relatrix further alleged that, on March 31, 1887, by order of the State Board of Health, a voucher for such sum of $100 for the clerical services by her performed as aforesaid, during such months of February and March, 1887, was issued in her favor by the Secretary of such State Board and approved by its President, and directed to the Auditor of State, a copy of which voucher was filed with and made part of her complaint; that afterwards, on April 1, 1887, the relatrix presented such voucher to appellant, as such Auditor of State, and demanded that he issue to her his warrant upon the Treasurer of State for the payment of such sum of $100; and that appellant as such Auditor, unlawfully and wrongfully refused his warrant to her for the payment of such sum. And relatrix averred that, at the time of her presentation of such voucher to appellant, Auditor of State, there was sufficient money in the hands of the Treasurer of State provided by law for the payment thereof. Wherefore, etc.

In his answer to the complaint of appellee's relatrix, appellant, Bruce Carr, Auditor of State, alleged that on the 9th day of May, 1885, while William R. Myers was Secretary of State of the State of Indiana, the State Board of Health made its written requisition, signed by its Secretary and approved by its President, upon such Secretary of State, of the tenor following, to-wit: "We have the honor to request that you appoint two clerks for service in this office, as provided for in section 4992, R. S. 1881;" that thereupon, on the same day, William R. Myers, as such Secretary of State, in response to such requisition, notified the Secretary of the State Board of Health, in writing, that he appointed "Prof. D. N. Berg and Miss Florence Stewart for such clerkships;" that thereupon, and by virtue of such appointment, Miss Florence M. Stewart, appellee's relatrix, entered upon the discharge of the duties of a clerk in the "Bureau of Vital and Sanitary Statistics," and so continued as such clerk in said Bureau, under such appointment as aforesaid of such Secretary of State, until, to-wit, February 2, 1887, when Charles F. Griffin, then and since Secretary of State for such State of Indiana, as the successor in office of William

R. Myers aforesaid, removed appellee's relatrix, Miss Florence M. Stewart, and served on her a written notice of that date, signed by him and addressed to her, of the tenor following, to-wit:

"I have the honor to inform you that, in accordance with the powers and duties vested in me, as Secretary of State of the State of Indiana, by section 4992, R. S. 1881, I have this day appointed James D. Walker to succeed you as Clerk of the Bureau of Vital and Sanitary Statistics of said State, said appointment to take effect on and after February 3, 1887; and that, on and after that day, your services will be no longer required as such clerk."

That, at the same time, Charles F. Griffin, as Secretary of State, made of record the following appointment, signed by him and sealed with the seal of the State, to wit:

"I, Charles F. Griffin, Secretary of State within and for the State of Indiana, do hereby constitute and appoint James D. Walker to be, and perform the duties of, Clerk of the Bureau of Vital and Sanitary Statistics of the State of Indiana, in accordance with the provisions of section 4992, R. S. 1881, of said State, to succeed Miss Florence Stewart as Clerk of said Board. This appointment shall be and remain in full force and effect on and after February 3d, 1887."

That, on the same day, the Secretary of State caused a written notice, signed by him, as such Secretary, to be served on the Secretary of the State Board of Health, of the following tenor, to wit:

"I have the honor to inform you that, in accordance with the opinion of the Attorney General of the State of Indiana, this day filed in my office, and the powers and duties vested in me as Secretary of State for the State of Indiana by virtue of section 4992, R. S. 1881, and in accordance with the requisition issued by you, as Secretary of the said Board, to the Honorable William R. Myers, Secretary of State, on the 9th day of May, 1885, calling for two clerks for service in the office of said Board, and to perform the clerical duties of the Bureau of Vital and Sanitary Statistics of said State, I have this day removed Miss Florence Stewart, as such Clerk, and appointed James D. Walker to succeed her in the performance of such duties; said removal and appointment to take effect on the 3d day of February, 1887."

That on said 3d day of February, 1887, and at divers and sundry times thereafter until this time, said James D. Walker, at the office of the State Board of Health, that being the proper office and place, offered his services, and to perform his duties, as clerk of the Bureau of Vital and Sanitary Statistics, under such appointment; but, on each and every such occasion, the Secretary of the State Board of Health refused to recognize him as such clerk; and that said Walker had been, and still was, willing and ready to perform his duties as such clerk, under said appointment. And appellant said, that the relatrix, Florence M. Stewart, notwithstanding the premises aforesaid, voluntarily performed the duties of a clerk in said office, at the direction of the Secretary of the State Board of Health, from that time on, and was, when appellant answered herein, so performing such duties, in defiance of her said removal, and without right or authority so to do; and that, for these reasons, appellant, Auditor of State, did refuse to issue a warrant to the relatrix herein, on the Treasurer of State, for the payment of her claim for $100, as alleged in her verified complaint, and for no other reason. Wherefore, etc.

Two questions are presented for our decision by the error assigned by appellant upon the sustaining by the court, at special term, of the demurrer of the relatrix to his special answer to her verified complaint herein, namely: *First.* Was Charles F. Griffin, Secretary of State, authorized or empowered by any law of this State to discharge or remove appellee's relatrix, Florence M. Stewart, from the performance of the clerical duties assigned to her in the Bureau of Vital and Sanitary Statistics? *Second.* Was such Secretary of State authorized and empowered by any law of this State to designate or appoint any one for the performance of clerical duties in such bureau, *except* "upon the requisition of the Secretary of the State Board of Health, approved by the President thereof," addressed to such Secretary of State? If these two questions must be answered in the negative, as they certainly must, we think, it is clear that no error was committed by the court, at special term, in sustaining the demurrer of relatrix to appellant's answer herein, nor by the general term in affirming such ruling.

The State Board of Health of this State, as we have seen, was organized on the 3d day of November, 1881, under the provisions of an act of our General Assembly, approved March 7, 1881, which took effect and became a law on September 19, 1881. That act or law contains fifteen sections, and these sections, as they appear in the Revised Statutes of 1881, are sections 4986 to 5000, inclusive.

On behalf of the appellant, the learned Attorney General and his associate counsel, as we understand their arguments oral and written, rest his defense to the suit of appellee's relatrix upon what they regard as the proper construction of section 7 of such act or law, being section 4992, R. S. 1881. This section reads as follows:

"The State Board of Health shall have supervision of the system of registration of births, deaths and marriages as herein provided, and they shall make up such forms, and shall, from time to time, recommend such legislation as they may deem necessary for the thorough registration and report of vital and sanitary statistics throughout the State. The Secretary of the Board shall be superintendent of all such registration; and the clerical duties and safe-keeping of the Bureau of Vital and Sanitary Statistics, thus created, shall be provided for by the Secretary of State, upon requisition of the Secretary of the State Board of Health, approved by the President thereof."

It is claimed on behalf of appellant (1) that the clerical duties of the Bureau of Vital and Sanitary Statistics, which, under this section of the statute, must "be provided for by the Secretary of State," can only be performed by a clerk; (2) that such clerk is an officer, whose appointment must be made, under the statute, by the Secretary of State; (3) that, as the duration of the office of such clerk is not provided for in the Constitution, and is not declared by law, under section 2 of article 15 of our State Constitution (section 224, R. S. 1881), "such office shall be held during the pleasure of the authority making the appointment;" and (4) that the power of removal from an office is a necessary incident of the power to make an appointment to such office.

It is a clear proposition, which will hardly be controverted, and certainly needs no argument to sustain it, that where a law contemplates or provides for the performance of "clerical duties" in any office or bureau, and does not in terms direct the appointment or employment of a clerk to perform such duties, the law impliedly authorizes the appointment or employment of a clerk for the discharge of such duties, and would be so construed. Here it is declared in the section of the statute under consideration, that "the clerical duties * * * of the Bureau of Vital and Sanitary Statistics * * * shall be provided for by the Secretary of State." Doubtless this provision of the statute not only authorized the Secretary of State, but made it a part of his official duty to provide for the performance of "the clerical duties * * * of the Bureau of Vital and Sanitary Statistics," by the appointment or employment of a suitable clerk for that purpose, but only "upon requisition of the Secretary of the State Board of Health, approved by the President thereof."

Whether or not the clerk so appointed or employed by the Secretary of State, upon such requisition approved as aforesaid, is an officer within the meaning of that word as used in the organic and statutory laws of this State, is a question which might, perhaps, admit of some debate, but which we do not find it necessary, in the view we take of this case, to consider or decide. For, whether such clerk be an officer or merely an employe, it is certain that, under the statute, whoever performs "the clerical duties * * * of the Bureau of Vital and Sanitary Statistics," he must "be provided for" the discharge of such duties, and, therefore, must be appointed or employed, in the sense of selecting, designating or naming him, "by the Secretary of State, upon requisition of the Secretary of the State Board of Health, approved by the President thereof." But after this clerk, whether he be officer or employe, has been selected, designated or named by the Secretary of State, he has no further connection with such Secretary in any way, is not made subordinate to him, renders no services in his office, and is not dependent upon him for his salary, wages or compensation. After such clerk has been named, appointed or employed, he enters upon the discharge of "the clerical duties * * * of the Bureau of Vital and Sanitary Statistics," of which bureau the statute declares that the Secretary of the State Board of Health "shall be Superintendent." He must agree with the State Board of Health for his salary, wages or compensation for his services, to which Board alone he is authorized by law to look for such compensation. He is subordinate to the State Board of Health, and its Secretary and Superintendent, and in the performance of the clerical duties of the Bureau of Vital and Sanitary Statistics, he must obey and comply with the orders and directions of such State Board and the Superintendent of such Bureau. It must be held, we think, that such clerk, whether officer or employe, holds his office, place or employment at the pleasure of the State Board of Health, and that it was not within the power of the Secretary of State to remove such clerk from such office or employment.

Of course, we recognize the general rule that the power of removal from an office is a necessary incident of the power of appointment to fill such office. It will be seen, however, from the section of the Statute above quoted, under which appellant claimed, in his answer herein, that the Secretary of State acted in his attempted removal of the relatrix, Florence M. Stewart, from her office or employment as Clerk of the Bureau of Vital and Sanitary Statistics, that the power of appointment to such office or employment is not given to the Secretary of State absolutely and alone, and that such power of appointment can not be exercised by such Secretary of State, *except*, "upon requisition of the Secretary of the State Board of Health, approved by the President thereof." It is clear, we think, that, without such requisition, the Secretary of State would have no power whatever, under such section of the statute, to provide for the performance of "the clerical duties * * * of the Bureau of Vital and Sanitary Statistics," either by the appointment or employment of a clerk, or in any other manner. Where, therefore, as here, the power of appointment to an office by one person or officer is made to depend upon some precedent or concurrent action of other persons or officers, it can not be said, as it seems to us, that the power of removal from the office is a necessary incident of such power of appointment.

We are of opinion, therefore, that the attempted removal, by the Secretary of State, of appellee's relatrix, Florence M. Stewart, from the performance of "the clerical duties * * * of the Bureau of Vital and Sanitary Statistics," was not authorized by any law of this State, and was, therefore, void and of no effect.

The second question for decision in this case, hereinbefore stated, may be re-stated as follows: Under the provisions of section 4992, *supra*, above quoted, Was the Secretary of State authorized and empowered to designate, name or appoint any person for the performance of "the clerical duties * * * * of the Bureau of Vital and Sanitary Statistics," *except* "upon requisition of the Secretary of the State Board of Health, approved by the President thereof?" That this question, as here stated, will admit only of an answer in the negative, is too plain, we think, for argument; indeed, this much is virtually admitted by the effort of the Secretary of State, as shown in appellant's answer herein, to base his appointment of James D. Walker, to perform the clerical duties of the Bureau of Vital and Sanitary Statistics, upon an old requisition of the Secretary of the State Board of Health, approved by its President, issued more than two years ago, and addressed to Honorable William R. Myers, then Secretary of State. It was shown, however, by the matters and things set forth in appellant's answer herein, that this old requisition had long since performed its office, and was *functus officio.* The answer of appellant further showed that, by this old requisition, two clerks were then required for service in the office of the State Board of Health, and that the then Secretary of State had then supplied and filled such requisition by the appointment of two clerks for such service, of whom appellee's relatrix herein was one.

It was not alleged in appellant's answer, that additional clerical aid was necessary to perform the clerical duties of the Bureau of Vital and Sanitary Statistics, or that the two clerks so appointed, on such old requisition were not capable and satisfactory to the State Board of Health; on the contrary, it was alleged by appellee's relatrix, Florence M. Stewart, in her verified complaint herein, and as it was not controverted by appellant, in his answer herein, it was by him admitted, that since May 9th, 1885, continuously until the filing of her complaint in this cause, she had fully performed her clerical duties in the "Bureau of Vital and Sanitary Statistics" to the entire satisfaction, and under the orders and direction, of the State Board of Health.

In conclusion, we are of opinion that the Secretary of State is not authorized, *except* "upon requisition of the Secretary of the State Board of Health, approved by the President thereof," to name or appoint any person to perform the clerical duties of the Bureau of Vital and Sanitary Statistics; and that the old requisition issued two years since to William R. Myers, then

Secretary of State, and filled by him at the time, afforded no authority whatever to the present Secretary of State to name or appoint James D. Walker to perform such clerical duties.

The Court at special term committed no error in sustaining the demurrer of appellee's relatrix to appellant's answer herein, nor did the general term err in affirming such ruling of the Court at special term, and the judgment rendered thereon.

The judgment is affirmed, with costs.

Filed May 23, 1887.

The foregoing decision puts at rest all controversy on this subject. It further clearly establishes the fact, that one department of State has no control over an appropriation made expressly for another and separate department.

If, as the Attorney General erroneously holds, the Secretary of State had the right to appoint clerks for this Board at will and fix their salaries, it can easily be seen how the entire appropriation, except such part, the expenditure of which is expressly provided for in the law, might be used for the payment of salaries, thus leaving the Board without funds for other necessary expenses.

SANITARY AUTHORITIES AND ASSOCIATIONS.

The following comprises a list of Boards of Health and Associations in the United States, together with the names and addresses of their executive officers.

NATIONAL BOARDS OF HEALTH.

United States Marine Hospital Service: Dr. John B. Hamilton, Surgeon General, Washington, D. C.

American Public Health Association: Dr. Irving A. Watson, Secretary, Concord, New Hampshire.

Sanitary Council of the Mississippi Valley: Dr. John H. Rauch, Secretary, Springfield, Illinois.

National Conference of State Boards of Health: C. A. Lindsley, Secretary, New Haven, Connecticut.

STATE BOARDS OF HEALTH AND THEIR SECRETARIES.

STATE.	SECRETARY.	RESIDENCE.
Alabama	T. A. Means	Montgomery.
California	G. G. Tyrrell	Sacramento.
Colorado	Geo. W. Cox	Denver.
Connecticut	C. A. Lindsley	New Haven.
Delaware	E. B. Frazer	Wilmington.
Illinois	Jno. H. Rauch	Springfield.
Indiana	Charles N. Metcalf	Indianapolis.
Iowa	J. K. Kennedy	Des Moines.
Kansas	J. W. Redden	Topeka.
Kentucky	J. N. McCormack	Bowling Green.
Louisiana	T. F. Salamon	New Orleans.
Maine	A. G. Young	Augusta.
Maryland	C W. Chancellor	Baltimore.
Massachusetts	S. W. Abbott	Boston.
Michigan	Henry B. Baker	Lansing.
Minnesota	C. N. Hewett	Red Wing.
Mississippi	Wirt Johnson	Jackson.
Missouri	George Homan	St. Louis.
New Hampshire	Irving A. Watson	Concord.
New Jersey	Ezra M. Hunt	Trenton.
New York	Lewis Balch	Albany.
North Carolina	Thomas F. Wood	Wilmington.
Ohio	C. O. Probst	Columbus.
Pennsylvania	Benjamin Lee	Philadelphia.
Rhode Island	Charles H. Fisher	Providence.
South Carolina	Henry D. Fraser	Charleston.
Tennessee	J. Berrien Lindsley	Nashville.
Texas	R. Rutherford	Houston.
Vermont	C. L. Allen	Rutland.
West Virginia	Thomas A. Harris	Parkersburg.
Wisconsin	J. T. Reeve	Appleton.

The pioneers in preventive medicine should feel elated when they look over the country and see the good results their perseverance and teachings have brought forth in one direction alone—that of organized boards of health in various States of the Union.

Thirty-one States have organized boards of health, and no State has ever degraded the intelligence of its people by repealing the law which created one. Within the year the Legislature of Vermont has joined the forces of that State with those who have been battling for years to prevent disease and death and prolong the lives of the people by passing a law establishing a Board of Health in that State. This Board has organized by electing officers, and is now in full operation. It is to be hoped that Congress will re-establish the National

Board of Health on a sound and substantial basis, give it a liberal appropriation and provide for its management by competent and educated sanitarians, and not make it an object of mirth by placing it in charge of a corporal or captain of the Regular Army. We believe that it should be connected with the Interior Department, and not that of the army, as formerly.

There is plenty of work and necessity for the existence of the National Board of Health, as well as the United States Marine Hospital Service.

If the reports that are now and have been coming from New York and Florida be true, we should judge that the latter branch of the Government service had all to do that should be required of any department to look after the welfare of the States along the sea coast without being charged with the care of those of the interior.

The benefits derived from it by this State, with its vast system of railroads traversing it in nearly every direction, are indirect, being only that afforded at sea ports that are reached by our railroads. Only a small portion of our commonwealth borders on navigable waters—three counties in the north along Lake Michigan and the extreme southern tier of counties along the Ohio River—so that any direct benefit which we might possibly receive from the Marine Service would be small. All of the counties bordering upon these water courses have thoroughly organized boards of health and are well prepared to meet any disease that may approach them by water.

Their condition is just the reverse of what it was in 1873, when cholera came to our State by way of the Mississippi and Ohio Rivers. We believe that every Senator and Congressman from interior States, or States that are not directly benefited by the Marine Hospital Service, will fail to perform his duty toward his constituents (and should be held accountable by them), unless he works and votes to place the National Board of Health in active working order under the control and management of educated scientific men.

NORTHERN INDIANA HOSPITAL FOR INSANE.

The following is a description of the situation of the Northern Indiana Hospital for the Insane by Dr. J. G. Rogers, Medical Engineer, given in his report to the Board of Commissioners.

"The Northern Indiana Hospital for Insane is located one mile and a half west of the city of Logansport, on a tract of land including two hundred and eighty-one acres, lying on the south bank of the Wabash River. An elevated strip of cleared bottom land, containing eighty acres, extends along the entire river front. This is bordered on the south by a ridge 2,000 feet long, and from 60 to 72 feet above the river. Its northern face is a limestone bluff, covered with ferns, lichens and creepers, constituting a very picturesque feature of the landscape. The center of this ridge is adorned by a beautiful grove of maples. South and west of this the ground is again depressed, but undulating toward the south line of the tract the surface rises to a height of eighty-four feet above the river. A broad belt of woodland, containing more than one hundred acres, extends from near the river on the west side to the high ground mentioned, and thence by a right angle, through the center toward the east. This includes within its shades a winding, rocky creek, which enters the farm at its highest point, by a pleasing cascade, and thence under a stone railway bridge, finds its way among the trees and boulders into the river. The Terre Haute and Logansport Railroad passes diagonally through the southern part of the tract, and cuts off seventy acres of elevated wood and arable land, including an old farmstead on the south. The arable and wood lands are about equal in extent, and the former is distributed very conveniently as to situation and size of the fields. The soil is a clay, mingled largely with bowlders, large and small, and is underlaid with a very irregular deposit of shelly blue limestone, gravel and sand. On the ridge before mentioned, in a line extending east and west, are placed the hospital buildings, eleven in number. In the rear of the center is a building containing domestic offices, assembly room and employes' quarters. Still further in the rear are the boiler house, pump house and laundry."

During the construction of the buildings belonging to this institution, the heating, ventilation, plumbing and house drainage have been under the careful supervision of Dr. Rogers, and everything in this line has been done in accordance with the latest sanitary teachings. The water closets have been placed in annexes provided with cross-ventilation, built especially for the purpose. Hopper closets with flushing tanks are used. Each stack of water closets is provided with a four-inch soil pipe, securely fixed to the inner side of the outer wall, being supplied with all necessary bends and offsets, extends from its connection with sewer head outside of foundation wall through closet-room floors and roof, where it terminates in a rotary galvanized ventilator. Each soil pipe has a running trap and fresh air inlet. The water closets have S-traps, which are vented, the vent pipe being carried up through the roof, or into the soil pipe above the highest fixture. The sewage of the buildings is conveyed in a twelve-inch sewer to the sixty acres of bottom land extending along the river front, where it is disposed of by intermittent filtration through the soil. This system has been in successful operation at various asylums in this country and England. "No nuisance is created and the fertilizing effect is very marked. Disinfectants are not needed, recent sewage not being offensive, and never becoming noxious when so divided and exposed so as to enable the oxygen of the air and the soil to purify it by oxidation."

The sanitary surroundings and arrangements of this institution are as nearly perfect as they can be made.

INSTITUTION FOR THE EDUCATION OF THE DEAF AND DUMB.

The buildings are much too small to accommodate all of the unfortunates who seek admission. The management from necessity have been obliged to crowd too many beds into the sleeping apartments, to provide for those who are now there. This crowding would undoubtedly result in much sickness, if it were not for the excellent ventilation of the rooms. A few years ago the plumbing and house drainage was thoroughly overhauled and numerous defects remedied, and the whole system made as perfect as possible. Previous to this time such contagious and infectious diseases as erysipelas, diphtheria, scarlatina and typhoid fever were nearly always prevailing in the Institution. Since the general renovation of the plumbing and drainage these diseases are rarely met with within its walls. Within the year the health of the inmates has been excellent, only one death occurring and that from erysipelas. This shows that the internal and external sanitary arrangement of the premises must be first-class in every respect.

There are three hundred and twenty pupils, ranging in ages from nine to twenty years, being educated in the various branches taught in our public schools. The boys are given an opportunity to learn various trades, such as shoe-making, cabinet-making and printing. The girls are taught to do plain sewing and fancy needle work. The water is abundant and pure, being taken from a deep driven well. The food is sufficient and of the best quality. The bedding of good material and clean. Every thing about the Institution presents a home-like appearance.

Owing to the fact that a large number are refused admission each year the State should lose no time in making the necessary additions to the building.

HOSPITAL FOR THE INSANE.

October 28, 1887, the State Board of Health visited the Hospital for the Insane, located three miles west of the city of Indianapolis, for the purpose of examining its sanitary condition.

Any unprejudiced person who will take the time to make personal observations of the methods of management and government of this institution will soon be convinced that everything is being done that can be done for the amelioration of the condition of the unfortunate inmates. The very appearance of the patients shows beyond question that they are well cared for in every particular. Of the seventeen hundred patients not one presented the slightest evidence of bad treatment or neglect. The officers and attendants seemed to be kind and attentive, and willing to show the Board the entire system of management in detail. Owing to the fact that within the year at various times charges had been made through the columns of several newspapers that the patients at this institution were given food to eat that was decaying and maggoty, careful attention was given to the quantity and quality of the same. The bread, beef, pork, mutton, butter, eggs, vegetables and groceries were all examined with care and found to be of the best quality. They were seen at dinner at which time the food as served upon the table was inspected and found to be excellent and abundant. The inmates are clean and well clothed, and, with few exceptions, seemed contented and happy. None were under mechanical restraint. Every afternoon, if the weather permit, those who are able are taken out for a promenade through the grounds. In those wards where the worst patients are confined a man and his wife are in charge, which seems to have a good effect, taking away the prison appearance and substituting home life. The wards are all very clean, the beds and bedding likewise, and in as good a condition as those found in the best hotels or in many private families. The sanitary condition, considering the class of inmates, can not be improved. Every nook and corner from cellar to garret is scrupulously clean, and not a bad smell can be detected anywhere in the building. The plumbing and house drainage is in keeping with the latest sanitary teachings. The water supply is abundant for all purposes and of excellent quality, being drawn from driven wells.

Different kinds of amusement are provided to employ the patients' minds, which enable them to forget, to some extent, the many delusions under which they live. Schools, dancing, theatrical performances, music, reading and the like are indulged in, the theory of the management being that when the mind is thus employed the governing of them is comparatively easy.

ASYLUM FOR THE BLIND.

On October 29, 1887, a committee appointed by the Board carefully inspected this institution. The rooms are clean, well ventilated and in most cases well lighted. The beds are clean and well provided with suitable covering. The system of plumbing which has been perfected by the present management is excellent in every detail, and it would be difficult to suggest wherein it could be improved. There were only a few mild cases of sickness among the inmates; all the rest were either in school, caning chairs, making brooms, or engaged in some other useful manner. It is to be regretted that the building is not considerably larger, as the Superintendent is almost daily in receipt of applications, from those who have become blind after mature life, for admission, to enable them to acquire the means of making a livelihood, and relieve them from the necessity of relying upon public charity for support. The Legislature should see to it that the proper addition to the building is made. The entire structure from cellar to garret was in excellent condition, every part of it being kept perfectly clean and entirely free from offensive odors.

INDIANA FEMALE PRISON AND REFORMATORY.

On October 29, 1887, representatives of this Board visited this Prison and Reformatory and made a careful examination of its sanitary surroundings. The Institution is pleasantly located on high, rolling ground, directly east of the city of Indianapolis. The natural drainage is most excellent. The building is large and substantial, three stories in height, built of brick, and was completed in 1872. Every cell and room from cellar to garret was inspected. Cleanliness prevailed throughout, and nowhere could foul odors be detected. The water closets were found to be as clean and free from odors as the other portions of the building. The plumbing and drainage is much better than that usually found in institutions of its character. Every water closet, sink and scullery was found to be well trapped and ventilated. The soil pipes are carried out through the roof and are provided with fresh air inlets. The connections between soil pipes and sewer are outside of the building and are first-class. It is well ventilated and is heated with steam. The water used is pure, being taken from a driven well seventy-five feet deep and remote from any source of contamination. On the Prison side there are twenty cells and two large dormitories. In the Reformatory there are eleven large dormitories, with an average of sixteen beds to each one. There were one hundred and eighty-eight inmates; fifty-one in the Prison and one hundred and thirty-seven in the Reformatory Department. Of the prisoners thirteen are colored and thirty-eight white. The eldest is seventy-two and the youngest is twenty-four years of age.

In the Reformatory there were ten colored and one hundred and twenty-seven white; three were under twelve years of age. Within the year three prisoners died with the following diseases: Syphilis, general congestion and old age. The inmates are kept employed performing various kinds of work, such as sewing, bottoming chairs, cooking, washing and scrubbing. The children are in school a half day, and the rest of the time they have work assigned to them and have certain times for recreation. The beds in the cells, dormitories and other sleeping apartments are clean, free from dirt and vermin. The food is sufficient and of the best quality, and so cooked as to be wholesome. The Institution has more of the appearance of a home for unfortunates than that of a prison. The building has no fire escapes. We suggest that they be provided at an early day as possible, more especially for the Reformatory. In case of fire in that portion of the Institution (under existing circumstances) the loss of life would be great. The arrangement of the dormitories is such that the most suitable place for them would be the apartments of the overseers, where there would be no opportunity for inmates escaping at other times.

The whole management of the Institution is under the control of women, proving clearly that they are capable of doing such work efficiently. Miss S. F. Keely is Superintendent and Mrs. E. L. Johnson, Assistant.

The Board of Trustees is as follows: Mrs. Thomas A. Hendricks, President, Indianapolis; Mrs. C. M. Walker, Indianapolis; Mrs. Milton James, Muncie, Ind.

REPORT OF COMMITTEE ON SANITARY INSPECTION OF SOUTHERN PRISON.

BY JOHN N. TAYLOR, SECRETARY OF COMMITTEE.

Complaint of the sanitary condition of the Southern Prison having reached the State Board of Health, that body in regular session resolved to institute a second inspection for the purpose of ascertaining the true state of affairs and presenting such to the proper authorities. Accordingly, Drs. Seawright, Boots and Fritsch were appointed a committee on sanitary inspection, and directed to make the necessary survey as soon as practicable. Dr. John N. Taylor was afterward added to this committee. On the 13th of October, 1887, the committee made its inspection, beginning with the cells and passing *seriatim* to each feature requiring investigation. The cells are small and imperfectly ventilated, were fairly clean, having been freshly whitewashed. No disagreeable odors could be perceived. The bedding seemed to be sufficient in amount, free from vermin, and as clean as circumstances would permit, though not so clean as should be. The want of bathing tubs and pools necessitates an amount of personal uncleanliness that is constantly manifest. A close inspection of the sheets and pillow-slips shows them to be sweat stained and soiled, which would not be had the men the facilities and time for bathing and change of garments they should have. This is a positive need and should be supplied as soon as possible. The men are mostly employed in the foundry, and the evening finds them perspiring and smoke begrimed, in which condition they are obliged to repair to their cells. To have to go to bed in such a condition as this is directly in contradiction of the first and principal rule of sanitation, not to speak of the discomfort incident thereto.

The corridors around the cells were undergoing thorough renovation, and whitewash and paint were being used liberally wherever required. At intervals along these corridors are placed stoves surmounted by tall sheet-iron drums, by means of which, when required, the cells above and below are heated. Inquiry among the prisoners instituted with reference to ascertaining the sufficiency of these elicited conflicting testimony.

Some declared that during the cold weather of last winter they suffered considerably, while others said that the amount of heat was sufficient. This apparent contradiction is due, no doubt, to the location of the cell and the bodily condition of its inmates. Investigation, however, reveals the fact that in this part of the prison there is, between the top of the wall and the roof, in many plaçes, quite an opening through which cold air in excessive quantities may pass uncontrolled. During the colder weather of midwinter this supply of cold air must render the cells uncomfortable to their occupants or necessitate such a consumption of fuel as amounts to absolute waste. The closing up of these openings and the substitution of ventilators that may be opened and closed at pleasure seems very desirable. An inspection of the work-shops and foundry showed them to be well ventilated and comfortable. The convicts seemed, for the most part, to be cheerful and to labor industriously.

The food was examined and found to be of a good quality, and sufficient in quantity—consisting of good light bread, vegetable soup, boiled beef and potatoes. The fare is varied to suit the necessities, and in some degree the desires of the prisoners. The committee found little to condemn until they came to consider the drainage, the sewerage, and the general disposal of the waste. These could scarcely be worse or more at variance with all the rules of sanitation. Seen from the outside of the walls, the prison stands upon ground whose surface is flat, almost marshy in character, having no natural drainage. One looks in vain for those evidences of the effectual disposal of waste, such as characterize modern institutions of a similar nature. Formerly, as has been stated in a previous report, the waste from the various buildings was carried along open gutters lined with brick, traversing the whole extent of the prison yard, and finally discharging into an open ditch (misnamed a sewer) on the outside. Under the present management these are allowed to convey only waste water, while offal, night-soil, and the like are carried and emptied into a pit that communicates with the above mentioned ditch. But here the change for the better ceases. This pit, situated at the nothern extremity of the prison wall, contains at all times a quanity of filth, that can not, with the present lack of facilities, be flushed away. And so foul is the odor that issues therefrom, that the stoutest stomach will rebel against him who has the temerity to lift the plank that covers it and look in.

The blind ditch—dignified by the name of sewer—extends some 2,600 feet northwestwardly from the prison wall, remains permanently closed, its contents undisturbed some feet below the surface, and will doubtless furnish effluvia enough to the surrounding neighborhood for years to come. The present dependence for sewerage then consists of one open ditch, 605 feet in length, extending along the prison wall to the west. This is simply one long cess pool, whose surface of liquid filth is rarely disturbed by any current save when it rains. At one point in its course the accumulation is so great, and its odor so excessively offensive, that the rash inspector, who ventured forward to examine it, was compelled to beat a hasty retreat, grasping his nose as he went.

An examination of the records of the prison physican exhibits the fact that the diseases most prevalent during the past summer were such as were recognized as proceeding from poisoning by filth, viz.: typhoid fever and dysentery. These have caused several deaths during the summer and much protracted sickness. It is true that, taken as a whole, the health of the inmates is not bad; but that the possibilities of the outbreak of a serious epidemic lie all about the prison, no sanitarian can doubt for an instant. To remove these as speedily as may be done is the part of wisdom and of humanity. The committee concluded its labors by surveying a line along which an efficient system of sewerage may be projected most successfully, and at a moderate expense. From the southwest angle of the prison wall to the Ohio River is a scant half mile. The incline from the level of the wall to that of the river must be at least fourteen feet. Converging lines of pipe conveying the sewage from all parts of the prison to this southwest angle may discharge rapidly into the falls of the Ohio by means of an eighteen-inch main. Once in the rapid current of the falls the disposal is effectual.

Another mode of disposal is by cremation. A crematory like that of Pittsburg or Montreal, but of much less capacity, might be operated very successfully in disposing of garbage and night soil, while at the same time it might be made to serve other economical purposes, such as furnishing heat necessary for driving machinery, etc.

It is the opinion of the committee that the officials having charge of the prison are in no wise blamable for the present condition of things within and without its walls. On the contrary, it appears that they are doing the very best they can with the exceedingly limited facilities at their command. The city of Jeffersonville should bear some small share in the cost of taking away the menace and reproach which the present condition of the Southern Prison presents, for should cholera, or any of the disorders known to have their origin in filth become epidemic, that city would suffer severely, as has already been indicated, by the number and fatality of the cases of typhoid fever occurring in its borders this season.

But the State should act promptly in the matter without waiting for the coöperation of other parties. Compared with similar institutions elsewhere, the Southern Prison is far below the standard in every particular. The lives of the inmates are constantly menaced, and, as has been said before, the possibilities of an epidemic are present and in some degree active.

NORTHERN PRISON AND MICHIGAN CITY SEWER NUISANCE.

Early in July we received word by telegraph from the Secretary of the Michigan City Board of Health that Fish Lake Creek, which leads from the prison sewer to the mouth of the main city sewer, had become a nuisance in consequence of the discharge of the prison sewerage into it, and that it was causing much sickness and distress among the citizens living in that locality. Complaint was also entered against the Water Works Board of that city to the effect that it was about to connect the present water system, which supplies the city with pure water taken from wells remote from any source of contamination, with the harbor, whose water is befouled by the city sewerage and offal from slaughter houses. The object in making connection was for the purpose of giving the city additional fire protection. Upon the receipt of these complaints we immediately notified the efficient health officer of Laporte County to make an inspection of the premises complained of and report to us the result of his investigation.

After the examination was made by direction of the State Board, the following carefully prepared reports were made in writing to this office, which thoroughly explain the character and extent of the trouble:

MICHIGAN CITY, IND., July 22, 1887.

To the Honorable Members of the State Board of Health:

The Board of Health of Michigan City, in company with Dr. R. O. Crandall, Secretary of County Board of Health, visited Fish Lake Creek, leading from the mouth of the State Prison sewer, to the Michigan Central Railroad track, where it enters the main sewer, which runs through the city on Fourth street, and empties into the harbor. The whole excrement from 800 men, together with the offal pertaining to the prison passes through this open creek for a distance of 4,200 feet before it reaches the closed sewer, the stench arising from this mass of corruption after leaving the prison sewer is intolerable, and injurious to the health of the inhabitants for many blocks east of said creek. During this hot weather the creek has become nearly dried up, thereby increasing the danger to public health from evaporation. The prison sewer is fourteen or sixteen-inch tiling, and is from 600 to 800 feet long to where it empties into said creek. The same sized tiling continued down this creek would carry off all the drainage from the prison into the main sewer. It could be done at a nominal cost, as there would be comparatively little digging. The main sewer on Fourth street is six feet in diameter and 3,500 feet long, with a good fall. During the spring and autumn, when there is plenty of water in said creek, the stench arising therefrom is not so great, but it is always a nuisance, and this summer it has proved itself a greater nuisance than ever. Before the sewer on Fourth street was built, we were visited with epidemics of diphtheria and scarlet fever to an alarming extent, but since the building of said Fourth street sewer, through the most populous portion of the city the ratio of deaths from diphtheria has decreased two-thirds, showing that the great death rate, especially from diphtheria, was caused largely from exposure from prison sewage. We are anxious that the State Board of Health should understand the danger to our inhabitants of this open sewer.

Another matter we desire to call to your attention is this. We are now building new water works. Two members of the Board are determined to put in a suction pipe leading from the reservoir into the harbor, in order to draw water from the harbor, in cases of necessity in a large fire. The supply of pure water is abundant, and can be increased at a nominal cost. The water in the harbor which they propose to use is contaminated with the prison sewage, and that also from two large slaughter houses situated just above the water works, both causes combined necessarily make the water in the harbor unfit for family use. One member of the Water Works Board is opposed to this plan. He is also a member of the Board of Health. Have we the power to prevent them from making the said connection for the purpose stated above?

W. R. GODFREY, M. D.,
Secretary Board of Health.

LAPORTE, IND., July 25, 1887.

C. N. Metcalf, M. D., Secretary State Board of Health:

DEAR SIR—In compliance with your instructions, I visited Michigan City on Tuesday, July 19, and with the authorities twice traversed the length of the surface prison sewer. A four-inch pipe, I think, would carry off the stream now issuing from the covered sewer. At times the volume of the stream is augmented probably three-fold, but uninterruptedly continuous in its flow. Its character and effect upon the public health, with just fall enough to give a barely perceptible movement to the stream—a nidus in which the torrid heat indefinitely multiplies deadly germs in a ratio geometrical progression fails adequately to represent. For four-fifths of a mile this public, officially State-made nuisance contaminates the air with its deadly germs and disgusting odors. Along the south side of this ditch, for nearly the whole length, the lots are built upon and occupied for residences. The last five hundred feet before it enters the city underground sewer, it runs into the ditch on the south side of the roadway. Both sides of this street are built upon and occupied. To verify the effect upon the health of the community I need only to state the mortality, compared with that of the whole county outside, including Laporte, for the month of July—nineteen days—the number of deaths recorded upon the Secretary's books was thirty. Reports received from all other localities in the county for the same nineteen days was only ten. This is not an exception and confined to this season, but the rule. Thus far this nuisance is a State institution, for which, as I understand it, the State is wholly responsible, and which should be forthwith abated by the State. I hold that the culpability of the State in this matter is infinitely greater than that of a railroad corporation that slaughters people by accident.

If I assumed, which I do not, the functions of the State Board of Health I would order the Prison Commissioners to put in a covered tile drain between the prison and city covered sewers as quickly as possible, taking care to have the lives of the men engaged in the work insured. I believe the Board has the legal authority necessary to enforce such an order so imperatively requisite. The city must bear a part of the responsibility of the situation. The sewerage of the whole city, together with that from the prison is poured into the harbor, (Trail Creek dredged out making the harbor). The prison sewage comes in at east end of Fourth street, and one-half mile east on the creek two slaughter houses are in full use, the offal from which, the stream brings into the harbor. The city has been for years and is now forcing water from the harbor at north end of Franklin street all over the city through mains for fire, street sprinkling and domestic purposes. Last year I convinced them that they were utilizing and nursing an awful nuisance, to the great detriment of the census report and the good name of their city. Since that report they have found an abundant supply of pure potable water in Jernagan hill, near east end of harbor, and new water works will be in operation about September first. The majority of the present Water Works Board seems determined to have a connection between the supply well of the new water works and the harbor, for use in case of need in fire. I prefer cremation to rotting through poisons, and believe if the State Board has the legal authority and the *sand* requisite to control this insane project a peremptory order prohibiting such connection would be eminently proper. Find, also, report of action of Michigan City Board of Health.

All of which is respectfully submitted.

R. O. CRANDALL, M. D.,
Secretary Laporte County Board of Health.

We believe that the above reports contain a true statement of facts, but at the same time they expect, or rather demanded, too much of this Board. The law does not give it authority to bring action against the State nor an incorporated city for maintaining a nuisance, and especially against a city which has a regularly organized health board. It is questionable whether the State Board has the right even to bring a similar suit against a private citizen, as it is held by good authority that in such matters its functions are only advisory. However, there is no doubt but that it has the right to direct local boards to bring such action. Under the law this Board has the undoubted right to place its seal of condemnation upon the sanitary surroundings, and internal arrangement of all public institutions, when the same are found to be detrimental to the public health. Upon receipt of the reports we transmitted them to the Governor, as he is the proper authority to whom all matters affecting State Institutions, should be referred.

On August 4, 1887, the Governor called the attention of the Board of Prison Directors to the matter complained of, by forwarding to the President of that Board copies of the reports. Upon the same day the State Board of Health was in session, and after considering the health officers reports, condemned Fish Lake Creek as a nuisance, and directed the Secretary to notify the prison authorities of its action. The Secretary was also instructed to request the Water Works Board to forward to the State Board of Health a diagram of their water system, which would show the contemplated connection between the main and the harbor, and that leading from the wells from which the potable water supply of the city is taken, and also to call their attention to the reports of the health officers, and ask them to give this Board a statement of facts. Upon August 16, 1887, the Prison Directors met in Michigan City, and considered the Governor's letter and the reports which had been transmitted to them, and assumed the position that the State was not liable, which will be seen by the following order which they passed:

WHEREAS, The Legislature of the State of Indiana, did in the fifty-fourth regular session of the General Assembly of said State pass an act entitled "An act for making a contract with the city of Michigan City for constructing a sewer from the Northern Indiana State Prison, and emptying into the harbor on the east side of said city." Approved February 27, 1883, which said act is in the following form and words, to-wit:

SECTION 1. *Be it enacted by the General Assembly of the State of Indiana*, That the State of Indiana will pay the cost of the construction of a sewer along and over the route above described, of the dimensions and character recited, the amount so to be paid not to exceed, however, the sum of thirty-three thousand two hundred and forty dollars to the city of Michigan City: *Provided*, Said city by its ordinance shall first accept the terms and provisions of this act, and agree to construct such sewer within the period of twelve months from the passage of this act, and further agrees that said State shall have the free use of said sewer and Fish Lake Creek, running through said city of Michigan City, to the harbor for sewage and drainage from said State Prison, and further agree to maintain and keep said described sewer and its connections in Fish Lake Creek and into said harbor in good condition ever hereafter; a copy of which ordinance shall be filed with the Auditor of State.

SEC. 2. From time to time, as the work progresses, the Civil Engineer of said city may make estimates of the amount of work completed at such time, and upon such estimates being verified under oath by such Engineer and filed with the Auditor of State, he shall draw his warrant upon the Treasurer of State in favor of said city, for the amount of such estimates: *Provided*, That of the gross amount appropriated by this act, twenty per cent. of the same shall not be paid until the work shall be fully completed, and shall be so certified to be by said Engineer under oath and his certificate filed as aforesaid.

SEC. 3. There is hereby appropriated the sum of thirty-three thousand two hundred and forty ($33,240) dollars, or so much thereof as may be necessary, out of any money in the Treasury not otherwise appropriated, for the purpose of carrying out the provisions of this act; and, WHEREAS, The said city of Michigan City, by its Common Council, did accept and agree to the terms and conditions of said act, and did—for the purpose of interpreting and more fully explaining the true and actual intent and meaning of said act, and in consideration of the appropriations made therein—pass and adopt an ordinance and cause the same to be spread upon the record of said city, and Council fully accepting and agreeing to all and every stipulation and condition of the act aforesaid, which said ordinance contains the following section, to-wit:

SEC. 2. And be it further ordained by the common council of the city of Michigan City, that the true intent and meaning of the act of February 27, 1883, under which this ordinance is passed, and a copy of which is hereto attached, is, and is hereby declared on the part of said city to be as follows, to-wit: That said city is bound thereby and hereby agrees and obligates itself, as soon and as fast as moneys sufficient for such purposes may come into its treasury, to build and thereafter to maintain, at its own charges, all that portion of said sewer in said act provided for, extending from the place where the line of said sewer, as designated in said act, is now intersected by the line and track of the Louisville, New Albany & Chicago Railroad Company, near Fourth street, in this city, to the point where the State Prison sewer, upon the lands of the State Prison North, now intersects Fish Lake Creek; said section of said sewer to be built along the line of said creek, as near as practicable; and to be of sufficient depth and capacity, fall and flowage, to carry away and discharge the sewage therein deposited from said prison. And in the meantime until the completion by said city of said portion of said sewer, as above described, the said city hereby agrees, and is and shall be hereby bound, under the interpretation of the true intent and meaning of said act, now herein made and placed by said city thereon, to keep and maintain the portion of said Fish Lake Creek, between the points of intersection above herein named, now used as a sewer, free, clear, clean and available for such use; and to save and keep the State of Indiana, and all officers of said State and prison, harmless from all prosecutions, suits, or actions or injunctions, for any nuisance, trespass, damages or claims for compensation of any kind upon account of the use of said portion of said creek as a sewer, or upon account of the future construction of a sewer therein, whether said suits be now pending or are to be hereafter brought herein. And,

WHEREAS, On the 4th day of August, 1887, the Governor of the State of Indiana transmitted to this Board of Prison Directors the following communication and documents, to wit:

Henry Monning, Esq., Director State Prison North, Ft. Wayne:

DEAR SIR—I have the honor to enclose herein a report of the health officers in relation to the condition of the surface sewer of the Prison North, and respectfully call your attention to the same. Very respectfully, ISAAC P. GRAY.

[The reports mentioned in the Governor's letter are published above.]

Now, therefore, be it

Resolved by the Board of Directors of the Indiana State Prison North, That the city of Michigan City, its Common Council and officers are hereby called upon, requested and required to take such action as will speedily and effectually remove and abate the nuisance complained of by the several boards of health above set forth, and to do and perform all other acts and things required of said city in the act of Legislature aforesaid and promised and agreed to by said city in the ordinance above set forth; and be it further

Resolved, That a complete copy of this preamble and resolution be transmitted to the Mayor of said city of Michigan City by the Warden of said prison.

SANITARY SURVEY OF COUNTY POOR ASYLUMS.

The following is a table showing the number of inmates, male and female, insane and idiotic, together with the sanitary condition of eighty-seven of the ninety-two county asylums in the State. The total number of inmates is 3,252. Of this number 507 are insane and 325 idiotic. The sanitary condition is not what it should be, as the ventilation in seventeen is reported bad, the heating in ten is insufficient, the water closets in sixteen are bad, and thirty-nine of them in need of improvements. The effect of these surveys and inspections, however, has been to call the attention of the authorities to the condition in which these asylums are found, and in some cases we are assured that the necessary improvements will be made in the near future.

SANITARY SURVEY OF COUNTY ASYLUMS FOR THE POOR.

COUNTIES.	INMATES.		Insane.	Idiotic.	Number Died.	VENTILATION.		HEATING.		WATER CLOSETS.		No. Needing Improvement.
	Male.	Female.				Good.	Bad.	Good.	Bad.	Good.	Bad.	
Adams	....	....	....	....	....	....	....	....	....	....	....	....
Allen	55	29	45	7	5	1	....	1	....	1	....	1
Bartholomew	19	26	11	6	4	1	....	1	....	1	....	....
Benton	9	2	1	....	1	1	....	1	....	....	1	1
Blackford	7	11	2	1	....	....	1	1	....	....	1	1
Boone	14	30	1	1	5	1	....	1	....	1	....	....
Brown	2	6	....	2	....	1	....	1	....	1	....	....
Carroll	10	14	7	1	2	1	....	1	....	1	....	1
Cass	38	19	2	6	6	1	....	1	....	1	....	....
Clark	27	11	7	5	7	....	1	1	....	....	1	1
Clay	6	22	1	1	2	1	....	1	....	1	....	....
Clinton	19	20	2	7	7	1	....	1	....	....	1	1
Crawford	12	5	2	1	3	1	....	1	....	1	....	....
Daviess	17	19	3	7	6	1	....	1	....	1	....	....
Dearborn	40	17	2	3	4	1	....	1	....	1	....	....
Decatur	26	25	3	5	....	1	....	1	....	1	....	....
Dekalb	18	8	....	6	2	....	1	1	....	1	....	1
Delaware	23	17	3	12	3	1	....	1	....	1	....	....
Dubois	11	10	3	2	3	....	1	1	....	1	....	1
Elkhart	20	17	1	4	3	1	....	1	....	1	....	1
Fayette	23	23	2	1	2	....	1	1	....	1	....	1
Floyd	30	39	10	2	7	1	....	1	....	1	....	....
Fountain	20	16	7	2	4	1	....	1	....	1	....	....
Franklin	26	31	14	3	4	....	1	....	1	1	....	1
Fulton	12	8	4	1	2	1	....	1	....	1	....	1
Gibson	15	9	5	3	8	1	....	1	....	1	....	....
Grant	25	20	5	1	2	1	....	1	....	1	....	....
Greene	15	11	3	16	6	1	....	1	....	1	....	....
Hamilton	33	19	4	....	10	1	....	1	....	1	....	1
Hancock	....	....	....	....	....	....	....	....	....	....	....	....

SANITARY SURVEY OF COUNTY ASYLUMS FOR THE POOR—Continued.

COUNTIES.	Inmates.		Insane.	Idiotic.	Number Died.	Ventilation.		Heating.		Water Closets.		No. Needing Improvement.
	Male.	Female.				Good.	Bad.	Good.	Bad.	Good.	Bad.	
Harrison	19	14	2	6	....	1	....	1	....	1	....	....
Hendricks	28	25	8	9	1	1	....	1	....	1	....	....
Henry	32	21	4	2	7	1	....	1	....	1	....	....
Howard	....	....	....	....	....	....	....	....	....	....	....	....
Huntington	23	11	7	....	7	1	....	1	....	....	1	1
Jackson	17	13	2	4	1	1	....	1	....	1	....	....
Jasper	7	3	7	....	....	1	....	1	....	1	....	....
Jay	13	20	3	2	1	....	1	1	....	....	1	1
Jefferson	29	36	25	1	3	1	....	1	....	1	....	1
Jennings	25	21	10	7	7	1	....	1	....	....	1	1
Johnson	18	9	4	....	1	1	....	1	....	1	....	....
Knox	17	21	6	2	4	1	....	1	....	1	....	....
Kosciusko	20	18	7	9	2	1	....	....	1	....	1	1
Lagrange	6	12	3	....	....	1	....	1	....	....	1	1
Lake	17	6	8	4	5	1	....	1	....	1	....	....
Laporte	19	18	8	6	2	1	....	1	....	1	....	....
Lawrence	19	18	....	1	7	....	1	....	1	....	1	1
Madison	24	26	2	2	1	1	....	1	....	1	....	....
Marion	177	46	65	2	....	....	1	1	....	....	1	1
Marshall	....	....	....	....	....	....	....	....	....	....	....	....
Martin	9	18	3	3	2	1	....	1	....	1	....	....
Miami	26	24	5	6	....	1	....	1	....	1	....	....
*Monroe	14	14	4	3	2	....	....	....	....	....	....	....
Montgomery	31	12	9	5	10	....	1	....	1	....	1	1
Morgan	22	22	1	10	3	1	....	....	1	1	....	1
Newton	4	....	....	1	1	1	....	1	....	1	....	....
Noble	19	14	5	8	2	1	....	1	....	1	....	....
Ohio	4	3	3	2	....	1	....	....	1	....	1	1
Orange	6	7	1	....	3	1	....	1	....	1	....	1
Owen	13	9	5	4	2	1	....	....	1	1	....	1

Parke	13	19	10	8	1	.....	1	.....	1	.....	1	1
Perry	14	18	8	3	2	1	.....	1	.....	1	.....	.....
Pike	8	6	2	1	.....	1	.....	1	.....	.....	1	1
Porter	28	5	8	4	7	1	.....	1	.....	1	.....	.....
Posey	12	14	3	1	1	1	.....	1	.....	1	.....	.....
Pulaski	3	2	1	.....	1	1	.....	.....	1	.....	1	1
Putnam	25	22	4	5	3	.....	1	1	.....	1	.....	1
Randolph	18	22	4	1	1	1	.....	1	.....	1	.....	.....
Ripley	27	14	6	5	3	1	.....	1	.....	1	.....	.....
Rush	17	14	3	10	2	.....	1	1	.....	1	.....	1
Scott	4	3	.....	2	.....	1	.....	1	.....	1	.....	.....
Shelby	24	26	3	6	6	1	.....	1	.....	1	.....	1
Spencer	12	16	6	2	2	1	.....	1	.....	1	.....	1
Starke	5	1	1	2	1	1	.....	1	.....	1	.....	.....
Steuben	19	6	1	2	.....	1	.....	1	.....	1	.....	.....
St. Joseph	32	5	8	8	5	1	.....	1	.....	1	.....	.....
Sullivan	3	2	1	1	6	1	.....	1	.....	1	.....	.....
Switzerland	17	18	5	15	2	1	.....	1	.....	1	.....	.....
Tippecanoe	50	40	16	6	12	1	.....	1	.....	1	.....	.....
Tipton	12	20	.....	2	2	1	.....	1	.....	1	.....	.....
Union	11	4	.....	2	1	.....	1	1	.....	1	.....	1
Vanderburgh	58	31	15	2	10	.....	1	1	.....	.....	1	1
Vermillion	9	12	2	2	1	.....	1	.....	1	1	.....	1
Vigo	49	32	23	3	1	1	.....	1	.....	1	.....	.....
Wabash	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warren	11	10	6	3	3	.....	1	1	.....	1	.....	1
Warrick	9	12	.....	5	2	1	.....	1	.....	1	.....	.....
Washington	24	28	3	12	5	1	.....	1	.....	1	.....	.....
Wayne	30	38	6	2	6	.....	1	1	.....	1	.....	1
Wells	23	21	1	3	1	1	.....	1	.....	1	.....	1
White	10	5	1	1	2	1	.....	1	.....	1	.....	.....
Whitley	17	17	3	2	2	1	.....	1	.....	1	.....	1
Total	1,824	1,428	507	325	273	68	18	76	10	69	17	40

* Building burned April 4, 1887.

SANITARY INSPECTION IN THE COUNTIES OF LAWRENCE, SPENCER, PERRY, KNOX, ORANGE AND DUBOIS.

BY W. A. FRITSCH, M. D.

The asylum for the poor in Lawrence County, which I visited July 14, 1887, is situated near Bedford, the county seat. The structure is of wood, one and one-half stories in height, has a stone foundation but no cellar. It contains ten rooms and two halls; rooms are mostly 11x12 feet in size, some of them having three, others two beds in them, which were clean. The ventilation is necessarily bad, only to be had through doors and windows, and of course insufficient, when we take into consideration the small rooms and the crowded condition of inmates. The building is heated by furnaces and stoves, but they do not heat the building to make it comfortable during the severe weather. The building being situated on a high ridge has natural drainage, and the supply of water coming from a spring on high ground is good and plentiful. The privy is about 100 feet from the building, has no vault, and is not disinfected. There are 29 inmates in the institution, 12 white and 3 colored males, 8 white women, 4 boys and 2 girls under 12 years of age. Seven of the number are insane, 1 idiot and 3 epileptic. The general health during the last 12 months has been poor, 12 dying last year from cancer, old age, consumption and chicken pox.

There is at present one colored man sick with the dropsy and too ill to keep the flies away; he begged for a drug to make him sleep; must have been very uncomfortable, as he was in a small room with several other men. The institution should at least be provided with one or two rooms for the use of the sick. The children receive no schooling. It is the plain duty of the County Commissioners to see to it that these children, who are orphaned and dependent upon the county, should receive a common school education, so that when grown they may become good citizens and not dependents. It would be eminently proper for the Superintendent of the county schools, standing at the head of its educational interest, to visit this institution from time to time and look to the welfare of the children. We call the attention of the State School Superintendent to this matter, because in many of the asylums for the poor which we have visited we found the children neglected. A nursery is sadly needed. Children and infants sleeping in small, unhealthy rooms with three or four old women can not thrive well.

While on my way to the institution the County Health Officer pointed out to me an old man, who he said was hired to a wealthy farmer by the Superintendent of the Asylum for $1.75 per week and board. When this statement was first published it caused some anger among certain officials in Lawrence County, and to do nobody injustice we give here Superintendent Box's defense in as few words as possible, as it appeared in a local paper in Bedford: "For about 15 years George Quarterman, a half-witted fellow, has been staying with Mr. Knight, a farmer, and does light work for him. During all this time he has been a pauper. Superintendent Box, of the County Asylum, draws for this man with the knowledge of the County Commissioners the amount allowed him for a poor inmate and divides the money with Mr. Knight, the farmer who works and keeps Quarterman." This is Superintendent Box's defense. In other words, Superintendent Box receives money out of the County Treasury for a man who is not in the Poor House under his supervision, and Farmer Knight receives money for a man who does "chores" on his farm. It is proper that the inmates should work when able, but they should be employed on the farm, and thus aid in making it creditable to the benevolent and enterprising citizens of Lawrence County.

THE LAWRENCE COUNTY JAIL.

The jail is located in Bedford, and is so miserably arranged and provided for as to ventilation and sewerage as to be unfit for human habitation. The structure is of stone, and has six cells, 2, 8x12 feet; two, 7x8; and two, 5x8. It was erected in 1859. The house is frequently damp, some of the cells having no windows. They are provided with chimneys, but they are quite insufficient for ventilation. The water closets without traps or flushing apparatus are full of human excrement, and the soil pipes are closed. The stench is intolerable. There were three prisoners at the time of my visit breathing the obnoxious gases of these dark, damp cells. In the town of Bedford there are two ponds, which are the occasion of complaint from citizens residing in their locality. One is a nuisance, and dangerous to public health. This is situated in a square adjoining the court house grounds, and is forty feet long, twenty wide, and twelve deep, surrounded with dwellings, partly builded over with stables and privies, with no vaults in the immediate vicinity, making this pond filthy and offensive. That such a pond so left in the heart of a town, will breed sickness, is not to be questioned, and I am surprised that the citizens do not see to it that there is a change made. There are no vaults to any of the privies in the town. The soil is not deep and the underlying rock hinders drainage. The dry earth closet system should certainly be adopted as the present state is certainly detrimental to the health of its citizens.

SPENCER COUNTY ASYLUM.

Upon July 29, 1887, I visited the asylum of this county, found it well located, having good natural drainage. The building of wood one story in height is old and dilapidated. The roof is leaking and the plastering is falling from the ceiling. There is neither basement nor cellar. Some rooms are used for storage purposes, leaving only five for the occupation of the inmates, each one containing three or four beds. Bedding not very clean and blankets old and torn, and bedsteads old and hard to keep clean. Found one weak-minded girl, about four years old, tied to a rope on the porch. The child had nests of vermin on her head, and is quite shy and timid, much, I think, on account of bad treatment from the woman who has charge of her. The County Commissioners are the guardians of this child, and they should apply to the Superintendent of the Home for Feeble-Minded Children, and see to it that she is taken there. None of the children receive schooling. One of the children under twelve years of age is a boy, and there are three little girls. There are twenty-two inmates —eight white males, thirteen white females and one colored man. There are three insane kept in a separate building. The cells of this brick house have closets without flushing apparatus and traps. They empty into drawers below, and every eight days these are hauled away to the fields; no dry earth used, no disinfectant, and the cells, as may be expected, have a bad smell. Two of the insane were locked up in these cells and one was out doors. It is earnestly hoped that the Hospital for Insane, situated at Evansville, may be furnished without delay, and its ample and commodious rooms be filled with these unfortunates from the various county asylums, where they are deprived of all chance for their improvement. We noticed only one small privy for the use of the Superintendent's family, and the inmates have to go to the fields to attend to the calls of nature.

As for the drinking water, the supply is pure and abundant, coming from a spring upon high ground. The same custom to have the children room with old, sickly people prevailed here. They should be under the superintendence of a good, cleanly woman in two rooms with separate apartments for the sexes. For the management of such an institution a man of experience, with a philanthropic heart, is needed. The Commissioners should be very careful in selecting a man for their county asylums, and should not be parsimonious.

Spencer County needs a good County Asylum, and a good management of the new institution.

SPENCER COUNTY PRISON.

Situated in Rockport, the county seat, is a new building of stone, 28x32 feet, with four cells, 7x8 feet large. It is well ventilated, has suitable water-closets, which are trapped and flushed with an abundance of water and are connected with a sewer. The prison looks very clean and was free from bad odors. There should be built a second tier of cells over the others, and so arranged as to make separate apartments for the sexes. At present only one prisoner is in the jail, and he told me he received good food.

PERRY COUNTY ASYLUM.

This is a substantial brick building situated near Cannelton, two stories in height, with a good dry cellar. The structure is 50x150 feet in size, is well located, with good drainage. The water supply comes from a well seventy feet deep, besides they have four cisterns. The house contains thirty-six rooms, with dimensions of about 10x12 feet; they have fair ventilation. Each sleeping room contains two beds; bedding clean and sufficient. There are thirty-three inmates, seventeen white males, sixteen white females. Eight are insane, two idiotic, and two epileptic.

Part of the floor is old and rotten and should be replaced by new flooring. There is a cess-pool about thirty feet from the building which should be removed; also a privy about eighty feet away having no vault. In addition to the main structure, they have recently erected a new frame house, containing two large, well ventilated rooms for the colored people. Within the year five deaths have occurred.

PERRY COUNTY PRISON.

Also located in Cannelton; is of stone, 20x30 feet in size. It has two cells in the center, 7x8 feet, unclean and miserably ventilated. The water-closet connected with the prison has no apparatus for flushing, nor is it trapped. Its soil pipe runs through the wall and under the ground to an outside privy used by the jailer and family. Obnoxious gases, by means of this soil pipe, have free access into the prison. Two prisoners were there, both were feeling sick. I consider the prison unfit for human habitation. Rockport being not far distant, I would urge the County Commissioners to remodel their's from that one.

KNOX COUNTY ASYLUM.

The asylum, situated near Vincennes, was erected in 1883, is a two-story, well-constructed brick building, and has a good location. It has twenty-four rooms, twenty of which are sleeping apartments, containing two or three beds each. Bedding very clean and ventilation most excellent. The privies are about 150 feet from the main building, all having deep vaults. Two cisterns and two wells near the building supply an abundance of water. Number of inmates, 34. Fourteen white and one colored male, fifteen females and four children under twelve (one boy and three girls), one child sick with cholera infantum.

There were eight insane prisoners. Two deaths—of consumption and old age—within the year. One insane woman, who had once set fire to the institution, removed some iron bars from the window of her room in the basement and then escaped, is now chained to the floor.

KNOX COUNTY PRISON.

This is in a very bad condition. One driven well and also hydrant water in constant use, situated inside the prison, and, being allowed to waste upon the floor, keep the prison constantly damp. Ventilation miserable. The water closets without a flushing apparatus and proper trap connects through an earthen pipe with a vault outside of the prison. This vault is covered with earth, and when full it is emptied. On the outer wall of the prison, from the soil pipe, an air pipe goes up above the roof. This is intended as an escape pipe for foul gases, but it fails to accomplish that object, as bad odors predominated.

There were nine prisoners in the jail.

In front of the jail and connected with it by hall and door with iron bars is the Sheriff's dwelling, and by this arrangement foul gases have access from the prison. The Sheriff himself lay quite sick with the flux.

The prison should be rebuilt without delay, as in such a state it is dangerous to all who inhabit it, including the Sheriff and family.

ORANGE COUNTY ASYLUM.

Is situated on high ground near Paoli, and has good natural drainage. The house is a wooden structure, built fifty years ago, and is without a cellar. Only the rooms occupied by the Superintendent are plastered. The roof leaks, and in places the floor is quite rotten. Eight low-ceiling, one-story rooms, with bad ventilation, chimneys in a bad condition, and the rooms not being plastered, makes it very difficult to heat them. Beds and bedding seemed to be clean. Two privies, one hundred and fifty feet from the building, but no vaults. Their only water supply is one small cistern. They have a spring located near a graveyard which is useless, as all who drink of it get sick. The inmates are seven white males and six white females, five children, four of whom are boys and one girl, one man is insane and one epileptic. They handcuff the insane man when at times he becomes intractable. The general health of the inmates for the year was good, the death of twin babes the only ones recorded.

John Mode, the ten-year-old son of a late soldier in the Union Army, is in the institution, and should be sent to the Knightstown institution. I was informed that the County Commissioners contemplate the erection of a new asylum. We hope they will be encouraged in their good intentions, as this old building is not in accordance with the present idea about sanitation and philanthropy.

ORANGE COUNTY PRISON.

This is located in the county seat; is a stone building, 18x24 feet; has no cells. The Sheriff's house in front adjoins the prison, and the female prisoners are lodged in the second story of the dwelling. The water-closet in the prison proper connects through a pipe with a vault outside. There is no flushing apparatus; dependent for that upon rains, from a pipe which leads into the closet, and in dry weather they pour buckets of water into the closet. There is no trap to keep the odors from the prison, a very bad arrangement.

DUBOIS COUNTY ASYLUM.

This institution is located on high grounds, but at the foot of this high ridge is Patoka River with its swampy banks.

The house is new, built about five years, but has never been finished in a proper way, partitions are of boards and the house is not plastered. The dimensions of the house are 30x90 feet. The house is divided into two parts, one side devoted to the male inmates with a common sitting-room, and the other side, the same arrangements for the female inmates. Both of the sitting-rooms are heated by a stove, which is insufficient in the severe weather—the house being unplastered. The structure is one story and a half in height, with fifteen rooms on the first floor, and three upon the second. The ventilation is fair. They use the rooms up-stairs partly for store-rooms, and I noticed a good supply of blankets. In my estimation the house needs a thorough cleaning.

On the grounds are three privies, with no vaults. In the institution are twenty-one inmates, eleven white males, and ten females; six of these are children under twelve years of age, four boys and two girls. The boys were in school at the time of my visit. A matron is needed in this institution, to control the women in the asylum, and assign them to work in the kitchen and house, and to superintend the general housework. Of the inmates two are insane, one is kept chained constantly. There was one epileptic. The general health has been good, only two deaths occurring, both of old age, since September 1, 1887, when the present Superintendent, Leroy Cane, commenced his administration. One well and a spring near by, furnishes a plentiful supply of good water.

JASPER COUNTY PRISON.

This prison adjoins the Sheriff's dwelling, is 25x30 feet, and has six cells, each about 7x9 feet. These are situated along the walls of the building, leaving an inner court or room lighted by small windows from above. These with the doors seemed to be the only means of ventilation. At the rear of the prison are two cells, one is closed, and the other contains the water-closet. The contents of which empty into a large vault, which is partly outside of the foundation of the building. The closet has neither trap nor flushing apparatus, which arrangement, of course, makes an unpleasant oder throughout the prison. The vault outside is only covered with a plank. I consider the prison in an unsanitary condition. There were three inmates, one insane is incarcerated here because they can not control him in the asylum. The two female prisoners are locked in the upper story of the Sheriff's dwelling.

Before concluding this report, a few general remarks may not be out of place.

In the six counties I visited I found but *one* jail—that of *Rockport*—in a good condition. That I did not find more sickness among the prisoners may astonish some of my readers; but we may perhaps account for it if we consider, first: These prisoners never stay long in the jails—either they prove in the courts their innocence, and are liberated, or being proved guilty are removed to the penitentiary; then they may contract a disease, which breaks out when they are out of jail. In those counties, where the sheriffs live in close proximity to these miserably ventilated and ill-smelling prisons, they endanger the health of themselves and their families. The sheriff of Knox county has died since I commenced this report. In other counties, sheriffs have had much sickness in their families. In bringing about a reform as to sanitation and healthfulness of these jails, we should count upon the assistance of the sheriffs, as it is a question of life and health for themselves and famiiles, to remodel these institutions.

I noticed in my tour through Dubois county two school houses without privies or water supplies of any sort. These certainly should have the attention of the authorities, as in cold weather it certainly will endanger the health of the little ones to have to go to the woods to attend to the calls of nature, to say nothing of any other reason.

Of the six asylums I visited, *two* only, those of Perry and Knox seemed to be in a fair condition. They all are asylums for the poor, the sick, the young orphan, the aged, and some who shun work. It would be of course better if we had no poor, but that millenium is, I think, far off. We can for humanity's sake not ignore this question. Let us look it straight in the face. It is an object of grave import, and worthy of the best thought to mature plans for buildings which may stand as models for States.

They are obliged to be used for different purposes. A home for the aged and infirm, an orphan asylum, a hospital for the sick, and a work house for those who are able to work, but make themselves dependent on the county. Even a superficial view will convince us that so heterogenous a class of subjects should not be housed under one roof, but a different plan might be adopted, viz.: The erection of cottages, so that orphan, the aged, the sick, and the naturally lazy might be separated. This I believe would be a prudent and wise design.

Let us not rely too much on private benevolence. There are without doubt some good private orphan asylums in the State, but even some of these are sustained by contributions out of their county's and city's treasury. It is better if the counties systematically organize this work.

The management of these poor houses should be entrusted to the right men, and women should always have a part in the control.

Never should it be given to *any* man simply because he is the *lowest bidder.*

There are many churches and meeting houses in every county, but only one poor house. The improvement of these asylums would be *practical* christianity, in which all should be interested.

SANITARY SURVEY OF COUNTY PRISONS.

COUNTIES.	VENTILATION.		W'T'R CLOSETS.		Prisoners.	Insane..	No. Died.	No. Needing Improvem'ts.
	Good.	Bad.	Yes.	No.				
Adams	....	....	....	....	....	....	....	....
Allen	1	....	1	....	35	....	16	....
Bartholomew	1	....	1	....	2	....	....	1
Benton	1	....	1	....	7	7	....	1
Blackford	....	1	1	....	6	....	....	....
Boone	1	....	1	....	6	....	....	....
Brown	1	....	....	1	....	....	....	....
Carroll	1	....	1	....	3	1	....	1
Cass	1	....	1	....	6	....	....	....
Clark	1	....	1	....	5	....	....	....
Clay	1	....	1	....	10	....	....	....
Clinton	....	1	....	1	10	2	....	1
Crawford	....	1	....	1	1	....	....	1
Daviess	1	....	....	1	5	....	....	1
Dearborn	1	....	1	....	2	....	....	....
Decatur	1	....	....	1	3	....	....	1
Dekalb	1	....	1	....	1	....	1	....
Delaware	1	....	....	1	12	1	1	1
Dubois	1	....	1	....	5	1	....	1
Elkhart	1	....	1	....	12	2	1	....
Fayette	1	....	1	....	1	....	....	....
Floyd	1	....	1	....	8	....	....	1
Fountain	1	....	1	....	1	....	....	....
Franklin	1	....	1	....	....	....	....	....
Fulton	....	1	....	1	2	....	....	1
Gibson	....	1	....	1	5	....	....	1
Grant	....	1	1	....	7	....	....	1
Greene	....	1	....	1	1	....	....	1
Hamilton	1	....	1	....	3	1	....	....
Hancock	....	....	....	....	....	....	....	....
Harrison	1	....	1	....	1	....	....	1
Hendricks	1	....	1	....	....	....	....	1
Henry	....	1	1	....	4	....	....	1
Howard	....	....	....	....	....	....	....	....
Huntington	1	....	1	....	3	....	....	....
Jackson	....	1	....	1	6	....	....	1
Jasper	1	....	1	....	4	....	....	....
Jay	....	1	....	1	3	....	....	1
Jefferson	....	1	1	....	4	3	....	1
Jennings	1	....	1	....	....	....	....	....
Johnson	1	....	1	....	8	4	1	1
Knox	....	1	....	1	7	....	....	1
Kosciusko	....	1	1	....	3	....	1	1
Lagrange	1	....	1	....	3	2	....	1
Lake	1	....	1	....	1	....	....	....

SANITARY SURVEY OF COUNTY PRISONS.—Con.

COUNTIES.	VENTILATION.		W'T'R CLOSETS.		Prisoners.	Insane.	No. Died.	No. Needing Improvem'ts.
	Good.	Bad.	Yes.	No.				
Laporte	1	....	1	....	8	....	....	....
Lawrence	....	1	....	1	1	....	....	1
Madison	1	....	....	1	8	1	....	....
Marion	1	....	1	....	35	....	1	1
Marshall	....	....	....	....	....	....	....	....
Martin	1	....	1	....	....	....	....	....
Miami	....	1	....	1	2	....	....	1
Monroe	1	....	1	....	5	....	....	....
Montgomery	1	....	1	....	3	....	....	....
Morgan	....	1	....	1	5	....	....	1
Newton	1	....	1	....	....	....	....	1
Noble	1	....	1	....	....	....	....	....
Ohio	1	....	1	....	....	....	....	....
Orange	1	....	1	....	1	....	....	....
Owen	1	....	1	....	....	....	....	....
Parke	1	....	1	....	4	....	....	1
Perry	....	1	1	....	3	1	....	1
Pike	....	1	....	1	....	....	....	1
Porter	1	....	1	....	1	1	....	....
Posey	1	....	1	....	12	3	....	....
Pulaski	1	....	....	1	....	....	....	1
Putnam	1	....	....	1	8	....	....	1
Randolph	1	....	1	....	5	....	....	....
Ripley	....	1	....	1	1	....	....	1
Rush	....	1	....	1	....	....	....	1
Scott	1	....	1	....	....	....	....	....
Shelby	1	....	1	....	2	....	....	....
Spencer	....	1	....	1	1	....	....	1
Starke	....	1	....	1	....	....	....	1
Steuben	1	....	1	....	2	1	....	....
St. Joseph	1	....	....	1	7	....	....	1
Sullivan	1	....	1	....	1	....	....	....
Switzerland	....	1	....	1	1	....	....	1
Tippecanoe	1	....	1	....	9	1	....	1
Tipton	....	1	1	....	....	....	....	1
Union	1	....	1	....	1	....	....	....
Vanderburgh	....	1	....	1	29	....	....	1
Vermillion	....	1	1	....	1	....	....	1
Vigo	1	....	1	....	20	....	....	....
Wabash	....	....	....	....	....	....	....	....
Warren	....	1	....	1	1	....	....	1
Warrick	1	....	1	....	6	1	....	....
Washington	1	....	1	....	6	....	....	....
Wayne	1	....	1	....	11	....	....	1
Wells	1	....	1	....	10	1	1	....
White	1	....	1	....	1	....	....	....
Whitley	1	....	1	....	5	....	....	....
Total	60	27	59	27	422	34	23	46

SCHOOL HOUSES.

When, several years since, a sanitary survey was made of the school houses in the State, very many defects were discovered. The heating, lighting and ventilation were found defective. The school house of twenty-five years ago was not a very imposing edifice. Neither was it erected with special reference to the comfort or convenience of those who were expected to occupy it. It was an improvement over the preceding ones, with greased paper for windows, large fire place and stick chimney. It is gratifying to note the change that has come in this respect. The writer has had occasion recently to inquire into the matter of building school houses, and almost without exception, the ones built now are of brick and stone, and are better adapted to the wants of the pupil and teacher. We published an admirable article last year upon " The Graded School Sytem, Its Relations to Health, Physical, Mental and Moral," by Prof. J. N. Study, Superintendent of the Richmond Public Schools. We feel justified in reproducing that part of it which refers to the sanitary condition of school houses.

SANITARY CONDITIONS.

A notable advance has been made in school architecture in the past few years. The day has gone by when four walls, a roof, a door and a window or two would be considered a school house. The subject of lighting, heating and ventilating school houses has become one of the problems of the age, and is receiving attention from the best minds. The importance to physical and mental health of a well-lighted, ventilated and beautiful school room can-not be overestimated. The school room should be an educator in itself. Money spent in beautifying and adorning it, within any reasonable limit, is money most wisely spent. This, always provided that it be not forgotten, that the *teacher* is the prime necessity of the school, and that the efficiency of the teaching force must not be impaired for any object, however desirable that object may be in itself. As to the effect of the graded school system upon sanitary conditions, it must be confessed that it has been both evil and good. School houses, unfortunately as a rule, do not precede, but follow demand. The demand usually must be imperative before it is supplied.

In the mere matter of architecture the cost of buildings in cities and towns has of necessity attracted the attention of architects and citizens, and in consequence the public school is no longer the barn-like structure of former days, but a building to which all may point with pride. In many instances the desire for external beauty and imposing appearance has led to the sacrifice of important internal arrangements for comfort and health. This has led in many towns and cities to the erection of three story buildings, with school rooms on the third floor. Sometimes the high school is placed upon the third floor. If the high school be quartered elsewhere, then some of the upper grades are sent to the third story rooms. The amount of stair climbing so required is injurious to the more delicate girls who belong to the schools, and especially so at the age when they are compelled to do it. One of the most prominent superintendents of public schools in the State—a gentleman of national reputation as an educator—told me that in his high school three girls broke down physically in one year, unable longer to do the stair climbing rendered necessary by the location of the high school in a third-story room. A third story may be profitably used for a lecture room, not in daily use, or for a cabinet room, but where ground is so easily to be had as in our Indiana cities and towns no school room should ever be put upon third-story floors. School rooms in cities and towns are in the majority of cases too full. School population has increased faster than school facilities. As a consequence of this fact we find school rooms with sixty, eighty, and even a hundred children in space not more than enough for forty or fifty. This is equally ruinous to health and to mental growth. Reports of school authorities frequently contain tables of comparative cost per capita of education in various places, generally with a view to showing that in their particular case the cost per capita is less than in other school systems. Economy is a good thing in school management, but the economy that makes a showing of a low per capita by packing eighty or a hundred children into one room, under charge of a low-priced teacher, and calling it a school is criminal in a mental, moral or physical aspect.

THE PROPER SCHOOL ROOM.

The school room should have ample floor space, not less than eight hundred square feet for forty pupils. Its ceilings should be of good height, thirteen and one-half or fourteen feet. It is better to make the rooms of moderate size, as the tendency in case of large rooms is to put in a larger number of pupils than can be handled to advantage by any teacher. The rule in Richmond is forty pupils to a grammar school. Of course exigencies arise, when, in some instances this number must be increased somewhat, but in other cases rooms will be short of the standard, so that the average is kept. In my opinion this number is as high as it can be safely made. A somewhat smaller number of pupils to a teacher would be still better.

LIGHTING.

An ample number of windows, not fewer than four, should be given to each room. These may be in two sides of the room, or in one only. The seats should be so arranged as to give the light from the left side and back, or from the left side alone. This last method has this advantage: The teacher facing the pupils in a room lighted from side and back is compelled to face the light a great part the time. In this method the eyes of both teacher and pupils are favored. The windows should extend to the ceiling, and be of the best glass, a single pane to a sash. Shade fixtures are now so made that the roller of the shade may be shifted from place to place upon the window, to meet the requirements of the various hours of the day, while the shade itself may be raised or lowered upon the roller, as in the kind in common use. This allows the light to be introduced from above at times when it may be undesirable to admit light from the entire window.

HEATING AND VENTILATION.

A constant supply of pure, warm air should be furnished in the cold months of the year. This may be effected by a good system of furnaces, or by a good heater placed in each room with a cold air duct leading to it from outside, and foul air registers at the floor leading into the ventilating flues. Steam heating, except by indirect radiation (which is expensive) can not be commended. The stationary steam coil in a room has all of the demerits of a box or common stove, with none of its advantages. A perfect system of heating and ventilation would keep a school room constantly supplied with pure warm air, taking from it that which has been breathed without a perceptible current, and without the opening, necessarily of door or window. The open fire is a most efficient ventilator, and for moderate weather is a most excellent way of warming a school room, but can not be relied upon unaided except in early fall or late spring. A building in Richmond, completed the last summer, and first occupied in September, has a grate in each room. Each room has, also, a good heater, with cold air duct and ventilating flue. There is also a good furnace, not of the largest size, however, in the basement, for warming the halls and the water closets. So far, in the rooms upon the second floor, the heaters have been used little, if any, the grates, with heat from the halls, having proved ample. The ventilation of the building is the most nearly satisfactory of all our school buildings.

THE WATER SUPPLY.

This most frequently becomes the prolific source of fatal disease. In large cities wells must of necessity become dangerous, by reason of the soil becoming saturated with the filth and excrement of a large population. In smaller places the well may from carelessness become poisoned by drainage from the privy vaults or sinks. The utmost care should be used in providing school buildings with pure water. In cities wells should not be used, and in the smaller places they should be so located and guarded as to leave no reasonable doubt as to their safety.

WATER CLOSETS.

Where it is possible, water closets should be located in or in immediate connection with the buildings. This prevents exposure to the inclemencies of the weather in obeying the calls of nature, and with proper plumbing may be made safe beyond question, provided sufficient water be used for flushing. With all teachers the keeping of out-houses in a decent condition is a problem that has caused most anxious thought, and decently kept out-houses are the exception, and not the rule. By proper vigilance on the part of teachers and janitors, much that is objectionable may be prevented, but with the closets located outside of the building it is almost impossible to prevent all. The peculiar configuration of the ground upon which our newest building, the one referred to above, is situated, made it necessary to locate the closets inside of the building. The upper and lower floors are each provided with a closet for boys, and one for girls, each closet with four compartments, and each of the boys' closets with three urnials. Connected with the closets are wash basins. The floors are laid in encaustic tile, and the woodwork is of oak, finished just as elegantly as the rest of the woodwork of the building. The going and coming is orderly, and three months' usage does not show a scratch upon the woodwork or defacement whatever. The floors of the closets are as clean at all times as are the floors of the school-rooms, and no odor can be detected in the adjacent halls or even in the closets themselves. The moral effect is most salutary, as no one would venture upon any act of obscenity with the chances of detection so numerous. The janitor inspects the boys' closets at short intervals, during school hours, while the principals of the upper and lower floors looks after the girls' closets. This is possible where there are water works, and a system of dry closets, now in use in many places, may be used anywhere.

CONCLUSION.

Many things might be said in connection with the sanitary arrangement of school houses. Much has been done in the last few years in the way of sanitary improvements in school buildings, but much yet remains to be done. Much yet remains to be done in the beautifying and adorning of buildings and grounds. Said a little girl, a pupil in the building above alluded to, to her teacher at the close of school one evening: "Oh, Miss ——, please don't make me go home now. It is so bright and cheerful here. Please let me stay as long as you do." The school room should be as bright and pleasant as the homes of the favorites of fortune. It should be to those not so favored a place to enter with delight and to leave with regret. Everything should tend to render the child's school days the healthiest and the happiest of life. The community that puts its money freely into provision for the mental, moral and physical development of its children will by so doing become richer and better.

SUPERVISION OF RAILROAD PROPERTY.

When it is known that there is only one county in the State without a railroad entering its limits, it can be easily understood that it is necessary that this property, amounting in value to millions of dollars, under the control of railroad corporations, should be the subject of sanitary supervision. Especially so since they annually carry into and through the commonwealth thousands of emigrants from various parts of the world. It is an established fact that such pestilential diseases as smallpox and cholera follow the course of travel and commerce. Health officers should make frequent and thorough inspections of buildings and grounds belonging to railway companies, and compel them to keep their property in a good sanitary condition. There is a depot in nearly every hamlet and incorporated town of the State, which is annually visited by two-thirds of the population of these places. These buildings should be properly located, ventilated, heated, cleaned and supplied with an abundance of pure drinking water. Urinals and water closets should be suitably situated and sufficient in number and capacity to accommodate the patrons of the roads. They should be kept clean and free from foul odors, so that the senses of the delicate and sensitive may not be offended. If stagnant pools and marshy places are found on the grounds, they should be drained and filled with earth, and kept as free from garbage and filth as the private grounds of the owners. The source of the water supply should be carefully looked after, whether it be a well, spring, stream or lake, and should not be used if within fifty feet of a cess-pool or privy vault, as the liability to contamination is too great for perfect safety. When a vault or cess-pool is located within the above distance of the water supply, it should be abandoned, thoroughly cleaned out and filled with dry earth, which is an excellent disinfectant, and new ones provided, situated at proper distances, made waterproof by being cement-lined and kept clean and inoffensive by disinfection and ventilation. Coaches used in the transportation of immigrants should be well supplied with ventilators and thoroughly cleaned and disinfected at the terminations of each trip. Saloon closets should be well ventilated and kept free from odors, the floors should be well oiled or painted, so that the soaking of moisture into the wood may be prevented.

All passenger coaches should be aired, the upholstering brushed, and their closets disinfected at least once each day. Cattle pens should be kept dry and as free from foul odors as possible by drainage, cleansings, and the free use of chloride of lime or some other equally reliable disinfectant. Foul and filthy cattle cars should not be allowed to remain standing on the tracks within the corporate limits of any city or town, or near any habitation. Vigilance should be practiced by the health officers, to see that these requirements are complied with.

DISEASES OF DOMESTIC ANIMALS.

About the middle of August, 1886, over one hundred head of dairy calves were shipped to Clinton County from the State of New York, and for three weeks were pastured on what is known in that vicinity as the "Miller farm," situated two and a half miles from the city of Frankfort, the county seat. During their detention on this farm a few of them died. In the second week of September they were removed from this place to the fair grounds, which are located near the corporate limits of the city. They were kept here until the middle of October. While at the latter place they did not seem to improve physically, but no special attention was paid to their condition, and they were not examined by a veterinarian. About this time they were sold to different farmers, all but one of the purchasers residing in Clinton County; the other in Warren County. Very soon after their removal to the farms of the purchasers, it was discovered that they were sick with a contagious disease, and upon November 4 the owners of the animals had them examined by a veterinarian, who pronounced the disease contagious pleuro-pneumonia. On November 5, 1886, word was received at the office of the State Board of Health that this contagion was prevailing among the cattle of Clinton County. Upon November 7 a veterinarian, employed to examine the diseased cattle by the State Board of Health, confirmed the report, and said there was no question as to the nature of the disease. The situation rapidly grew serious, and the stock-raisers of the county were greatly alarmed and urgent in their demand that something be done for their relief. In accordance with their desire, on November 9, this Board made an inspection of the diseased cattle, in company with a veterinarian. The affected animals were found emaciated, dull and stupid; the skin was drawn closely over their frames, the hair stood out, and all had a cough which was coarse and husky, and sounded very much like the cough of a human suffering with croup. There was a very slight discharge from the nostrils, and the skin about the nose and mouth appeared unusually pale. One of the diseased animals was killed, and a post mortem examination was held in the presence of the Board. Upon the chest being opened and the lungs removed, no pleuritic effusions or adhesions were found; there was no thickening of the inter-lobular tissue. The lungs were very much discolored in places, apparently from lobular congestion or inflammation, which gave them a mottled appearance. Upon being cut open some lobules were found solidified with a deposit of about the consistency of putty, and were of various colors. The bronchi and air cells were filled with mucus and pus, in which were discovered small white worms, from a half to two inches in length, and in form looked very much like pieces of thread. Others, in which Dr. Salmon made post mortems, did not present the cheesy deposit, and it is probable that this one was affected with tuberculosis. After examining the diseased cattle and witnessing the post mortem, the members of the Board were of the opinion that it was not contagious pleuro-pneumonia. However, it was evident from that which had been seen, that the owners of the stock had some form of animal disease with which to contend, but the Board was unwilling to give it a name, especially as two educated veterinarians, who were supposed to be acquainted with cattle diseases, had pronounced it pleuro-pneumonia. In order to prevent, as far as possible, the spread of the malady, an order was issued, placing all of the affected and those that had been exposed in quarantine for a period of ninety days, and the Secretary of the Board was directed to ask the Governor to request the National Bureau of Animal Industry to send a veterinarian under its control, to examine the cattle, and if possible, definitely settle the true nature of the disease. In accordance with this request, on November 12, 1886, Dr. Salmon, Chief of the Bureau, arrived from Washington, D. C., and on the following day made an examination of the affected herds, in the presence of all of the interested parties, and unhesitatingly pronounced the disease parasitic bronchitis, or hoose. About this time word came from Warren County that the calves that had been taken from the original lot at the time of the sale, were sick, and the owners requested that some one of experience be sent to examine them. Therefore, the Board requested the State Veterinarian to proceed to Warren County and examine them. On November 15 he made this examination, and found them affected with the same disease as those in Clinton County.

A brief history of this disease and its symptoms will be found in the State Veterinarian's report to the State Board of Health, which we publish in our annual report.

The State Board of Health, acting in accordance with the law on opinions rendered by the Attorney General, have directed the health officers of the State to "take cognizance of all violations of the Revised Statutes in reference to diseased animals, and whenever any such are found, at once cause a rigid enforcement of the laws," and in all cases of contagious or infectious animal diseases coming to their knowledge, to at once institute active measures to stamp out the malady. The power of the State Board of Health in such diseases is limited, as it possesses only the power to quarantine, and not to destroy, animals affected with such diseases. However, if they should be removed from quarantine, the Board or its agents would have the authority, under the rights granted by the police powers of the State, to destroy such animals.

In reference to the business followed by many butchers of slaughtering sick, diseased or injured animals, and offering their meat for sale in the public markets of most of our cities, we feel compelled to quote the section of the Revised Statutes bearing upon this subject, and repeat that which we said in our last annual report, viz.: "Whoever kills for the purpose of sale any sick, diseased or injured animal, or has in his possession, with intent to sell, the meat of any such sick, diseased or injured animal, shall be fined not more than five hundred dollars, nor less than fifty dollars, to which may be added imprisonment in the county jail not more than six months." (Section

2070, Revised Statutes, 1881.) Notwithstanding the existence of such a law, swine, in which cholera has made its appearance, cattle, injured and diseased with tuberculosis, cancers and abscesses, are purchased at a nominal price by these mercenary individuals, who slaughter them in out-of-the-way places on the outskirts of our cities, and dispose of their flesh in spite of the authorities. Every fibre of such an article contains disease germs, and should be avoided as a deadly poison. If it does not introduce disease directly into the system, it will surely create a local disturbance from its poisonous irritation of the stomach and alimentary canal. As the cheapness of the article is its only recommendation, the poor and needy become its victims, who, if they can not have the luxuries of this world, should have what they partake of as food guaranteed to them as being of the purest quality. We suggest, as a remedy for this evil—the effects of which fall upon the unprotected citizen—the passage of a law establishing abattoirs in all of the cities of the State, to be built outside the corporate limits, and forbid slaughtering elsewhere. All animals before being killed should be examined by a competent person, who should also be present during the slaughtering and examine the viscera for disease. The person chosen to perform this character of work should be either an experienced butcher or a veterinary surgeon. The latter, when possible, should be chosen, because by profession and education he would be particularly adapted to assume such a responsibility. The educated veterinary surgeon would know that the advancement of his profession would depend upon his being strictly honest in the performance of his duties. The strict enforcement of such a law would relieve the people from the imposition that is now practiced upon them, and meat from healthy animals would be guaranteed to all consumers. Without such restrictions thrown around the business, the people will remain at the mercy of these conscienceless scoundrels. During the past year the citizens of Indianapolis have been well protected from the practice of that class who deal in diseased and unwholesome meats by the energetic work performed by the local Board of Health, under the efficient management of its Secretary, Dr. S. E. Earp.

Regularly each day an inspector visited the Stock Yards where most of the animals are purchased for slaughtering purposes in this market. Whenever a steer with a cancered jaw or any kind of a diseased animal was found for sale, whose meat was to be placed upon this market, it was instantly killed.

The various slaughter houses of the city have also been regularly visited, and when a sick or injured animal has been found the owner has been directed not to kill it, if its meat was to be offered for sale. In some cases this order has not been obeyed, but in each instance the violator has been obliged to pay the penalty for his infraction of the law in a court of justice. The public markets have been kept under a strict surveillance, and when any unwholesome or putrefying meat has been found, it has been condemned and its sale prevented. It was soon understood by the Stock Yards Company butchers and dealers that the law would be enforced, and all violators prosecuted to the fullest extent, and they also learned that threats of damage suits and official decapitation would not turn the Secretary from the course he was pursuing. As a result of the work performed, the people of Indianapolis have been furnished with wholesome meat. Diseased cattle are now seldom brought to the Stock Yards, and butchers have ceased to kill sick and injured animals. It is to be hoped that other city boards throughout the State will pursue the same course. Within the year swine plague (hog cholera) has prevailed in various localities of the State, but not so general and destructive as during the previous year. Until scientific men who are investigating the subject can give the people something definite as to its nature, cause, prevention and treatment, the disease will be both prevalent and fatal.

Owing to the fact that the law does not provide for the destruction of animals sick with pleuro-pneumonia, glanders and cholera, and as it is the only means by which such diseases can be exterminated, we repeat the suggestion that the diseases of domestic animals be placed by law in charge of the State Board of Health, with authority to destroy those affected with contagious and infectious diseases. Provision should also be made to pay the owners of the stock a reasonable compensation for their loss. As pleuro-pneumonia and other contagious and infectious diseases are prevalent among the cattle of several neighboring States, breeders and others interested in this enterprise in which so much capital is invested, should make it a point to use their influence with the next General Assembly to provide for the appointment by the Governor of a State Veterinarian, with a sufficient compensation to command the services of a competent one.

The Governor's proclamation issued two years ago quarantining Indiana against other States where pleuro-pneumonia was prevailing is still in force. Its provisions have been very generally observed, and the action of the Governor has done much during the past two years to prevent the promiscuous shipping of cattle into the State.

INDIANAPOLIS, Nov. 1, 1887.

To the President and Members of the Indiana State Board of Health:

GENTLEMEN—I very respectfully submit my annual report, ending November 1, 1887. Within the year there has been no general epidemic. Influenza has been very prevalent among horses, but not of a fatal character.

November 13, 1886, it was reported that contagious pleuro-pneumonia existed among some cattle of Clinton, Jasper and Benton counties. Accordingly, in company with the members of the Board, I visited Clinton County, and held a post-mortem examination upon three animals supposed to be affected with this disease. We found the disease to be parasitic bronchitis, and no evidence of pleuro-pneumonia whatever. November 15, by direction of the State Board of Health, I visited Warren County, and found some cattle affected with the same disease as those in Clinton County.

HOOSE.

This is a parasitic disease of the lungs in calves. It also affects sheep, pigs, and fowls, and has been found in the lungs of young colts and mules. Symptoms in the early stages of the disease are spells of coughing, gaping, rubbing the nose and chin on the ground. The animals seem to grow weak, yet retain their appetite to the last, in most of the cases. The disease is chronic in its nature, and death is due to exhaustion. It is not often seen in old animals, and when such a case occurs, it is in an animal that is reduced by previous illness. It has been seen in cows as old as ten years. In Jamaica cattle of all ages are affected, and in Switzerland the disease is common among pigs. In calves the parasites are found in large numbers in the smaller branches of the bronchial tubes and trachea, and are partially developed in the substance of the lungs. It is the *strongylus micrurus* which is found in the calf, and occasionally in colts and young mules. In lambs and kids the parasite is termed *strongylus filaria.*

Within the year I have examined for the Indiana Blooded Stock Company, 132 head of cattle, and found them free from any contagious disease, and gave certificates of health for their shipment.

I have examined for Fowler and Vanetta their entire herd and found the same to be free from any contagious diseases, and gave health certificates for fourteen head for shipment as show cattle. Upon August 8 I visited Goshen, Ind., as it was reported that pleuro-pneumonia existed on the Fuller marshes, and killed two animals, the property of Mr. Leaman. I found them affected with splenic fever, due to malarial poison. August 30, a report was received from Monticello of an unknown disease in that locality with which a number of animals had died. I visited the farm in company with Dr. Seawright and Dr. Mullen, and killed one animal belonging to Mr. J. Smith. Upon examination found the disease to be *milk sickness.* The internal organs were congested to a great extent, especially the liver and manifolds. Upon examination the spinal cord was soft and surrounded with considerable fluid, which shows beyond a doubt that there was dropsy of the spinal cord or hydrorochitis. The cause of milk sickness has long been a puzzle to all observers. It is developed in cattle that are pastured on uncultivated ground during the months of July and August in certain localities, by eating poisonous weeds, more especially the white snake root. One of the most serious features is that it is communicable to the human family through the milk, and in most cases incurable. So concentrated is the poison that hides of animals dying from this dread disease, and eaten by rats, will destroy them as certainly as "ratsbane.". Horses and sheep are also liable to its attack.

I have examined for different parties during the year 1,183 head of animals. I would advise a closer inspection of dairies and slaughter houses, and in my opinion many diseases are existing among animals that are slaughtered and used for human food.

E. H. PRITCHARD,
State Veterinarian.

RULES GOVERNING THE TRANSPORTATION OF DEAD BODIES, AS AMENDED.

The State Board of Health, at its regular meeting held December 21, 1886, was visited by the following committee, appointed by the State Undertakers' Association, viz: Messrs. Charles E. Kregelo, James Rennihan and Frank Flanner, who presented the following:

To the Honorable Members of the
Indiana State Board of Health:

At the last annual meeting of the Indiana State Undertakers' Association the following resolution was passed:

Resolved, That we heartily indorse the rules of the State Board of Health in regard to the shipping of bodies which have died from small-pox, diphtheria, typhoid or scarlet fever, measles or erysipelas, and will do all in our power to see them carried into effect; but where parties have died from any non-contagious disease a certificate from an undertaker to the effect that the body has been properly embalmed should be considered a sufficient safeguard in shipping.

After careful consideration of the above the Board adopted the following, to-wit:

"That bodies of persons dying from non-communicable diseases may be shipped without further restriction when embalmed with one of the standard embalming fluids, the liquid to be injected into one of the following named arteries: Bronchial, carotid or femoral, and also that a sufficient quantity must be injected into the thoracic and abdominal cavities." (See Rule 3.)

RULE 1. The transportation of bodies who have died from small-pox, Asiatic cholera, typhus or yellow fever is strictly forbidden.

RULE 2. From November 15 to March 1 all other dead bodies may be transported without restriction, except those who die of diphtheria, scarlet fever, typhoid fever, erysipelas and measles. In these cases the bodies must be wrapped in a sheet thoroughly saturated with a solution of chloride of zinc (½ pound chloride of zinc to a gallon of water, or one ounce of corrosive sublimate to a gallon of water) and encased in an anti-septic interment sack, hermetically sealed, and placed in a coffin, which must be inclosed in a tight wooden box. The coffin must be surrounded by saw dust saturated with a solution of chloride of zinc, or corrosive sublimate, the same as above..

RULE 3. From March 1 to November 15 all bodies of persons dying from non-communicable diseases may be shipped without further restriction, when embalmed with the Standard fluid. The liquid must be injected into one of the following named arteries: Bronchial, carotid or femoral, and also a sufficient quantity (it is impossible to specify the quantity, as that will depend upon the age and size of the person) must be injected into the thoracic and abdominal cavities.

RULE 4. No person or article which has been exposed to the contagion can accompany the body.

RULE 5. Every dead body must be accompanied by a physician's certificate of death and a certificate from the shipping undertaker that the body has been prepared for transportation in accordance with the rules of the Indiana State Board of Health.

FORMS OF CERTIFICATE REQUIRED BY THE BOARD.

PHYSICIAN'S CERTIFICATE OF DEATH.

I hereby certify, to the best of my knowledge and belief, that ...., aged ...... years ...... months ...... days, died of ....

.................................., M. D.

Residing in .... County, Indiana.

.................................., 188...

I hereby certify that the body of the person named in the foregoing physician's certificate has been prepared by me for transportation in accordance with the rules of the State Board of Health.

.................................., Undertaker.

Residing in .... County, Indiana.

In the enforcement of these rules it must be understood that the intention is that no dead body shall be received which may be the means of spreading any contagious or infectious disease.

Therefore, in receiving any dead body which has been shipped from within either Illinois, Kentucky, Ohio or Michigan, the rules of their State Boards of Health must be observed.

All dead bodies presented by connecting lines and coming from beyond the States mentioned, need only to be accompanied by a physician's certificate, clearly setting forth that the disease of which the person died was not of a contagious or infectious character.

The rules and regulations made by the State Board of Health and adopted by the various local Boards, in accordance with powers given by act creating State and Local Boards of Health, etc., are laws to be obeyed by every individual in the State.

All prosecutions for violations of the statute law, or the rules of Local Boards of Health, should be instituted by the several prosecuting attorneys of this State, upon information of such local boards.

The above rules and regulations are hereby adopted, and all rules and regulations heretofore promulgated by circular, card, or pamphlets, or through newspaper publications, in conflict with the foregoing, are hereby revoked.

By order of the Indiana State Board of Health:

S. R. SEAWRIGHT, M. D.,
President.

C. N. METCALF, M. D.,
Secretary and Executive Officer.

COUNTY BOARDS OF HEALTH.

The ninety-two counties of the State have organized Boards of Health in accordance with the law. The County Commissioners with a physician, who is annually selected in the month of January to fill the position of Secretary, constitute these various county boards. The Commissioners are usually composed of a class of men who never interested themselves in sanitation or matters relating to the public health. Therefore, the efficiency of these boards of health depends entirely upon the intelligence and energy possessed by their secretaries. By virtue of the law creating boards of health, such secretaries are the health officers of the counties in which they reside, and are fully empowered by such act to enforce all statutes, rules and regulations promulgated by the State Board of Heath for the protection of the public health, and are required to give this department such information and statistics as it may deem necessary. It is part of their duty to quarterly make reports to this office of all marriages, births, deaths and contagious and infectious diseases occurring in the counties which they are serving, and also to demand of the physicians practicing in their respective jurisdictions, that they report all births and deaths occurring in their practice, within a period of fifteen days after coming to their notice. They must strictly enforce the rules adopted by the State Board, requiring contagious and infectious diseases to be reported as soon as recognized. As soon as elected these officers should make themselves familiar with all the sanitary laws of the State, and carefully study and intelligently interpret the rules and regulations issued by the State Board, and require a compliance with the same. The annual changing of health officers is a circumstance to be lamented, because it requires new men some time to familiarize themselves with their official duties and acquire a knowledge of the laws, rules and regulations, pertaining to the public health. It too frequently happens that good and efficient officers, who thoroughly understand their duties, and are not afraid to enforce the laws, and competent in every respect, are removed because their political views are different from those of the appointing power.

If civil service should prevail anywhere it should be. in the health service of the State, and especially when it is so difficult to procure good men for the position. It is the duty of local health officers to anticipate diseases, by having a thorough knowledge of their causes, and compel a removal of the same, and by doing this, prevent sickness and death.

They should acquaint the people with the nature and best means of prevention of contagious and infectious diseases, and use every possible effort to educate the masses in the latest methods employed to preserve the public health by distributing among them literature treating upon the subject. "An outbreak of an infectious disease, extending beyond its first victims unchecked, is an evidence of neglect or ignorance of duty by local boards, inexcusable because a knowledge of methods of prevention or control, and the legal power to enforce regulations to these ends have been abundantly provided." Their duties extend to the home of every citizen, and demand the exercise of intelligence, good judgment and a knowledge of human nature. They are called upon to make "sanitary investigations and inquiries respecting the causes of mortality and the effects of localities, employments, conditions, ingesta, habits and circumstances on the health of the people." Examine, also, into the condition of dwellings, tenement houses, and the water supply of towns, cities and public institutions, and consider methods to be employed for the purpose of enforcing the abatement of nuisances. These embrace some of the more important duties of a health officer. In order to acceptably fill the office with benefit to the people, they must be energetic, faithful and fearless in the performance of their work, and possess the courage to compel friends as well as enemies to obey the law.

The position is one that should not be occupied by a "drone," a timid man, or one with mercenary proclivities, who is only in search of the money he may make out of the position. We have many health officers in the State who meet all of the requirements of the office, while there is a considerable of a minority who pay very little attention to the performance of their duties, and apparently take no interest in sanitary work. It is only when a great emergency arises and the citizens of their respective localities demand that something be done to relieve them of an intolerable nuisance, or prevent, if possible, the spread of an epidemic, that they have aroused from their lethargic state and made a pretense of performing the work devolving upon them. Such officers are the cause of the opposition and niggardly support which Boards of Health receive in some localities.

Our present law should be amended, so that this class could either be removed or some form of penalty imposed when they fail to properly do their work. A few give as an excuse for this neglect that they are so poorly remunerated for the amount of work required. All are well aware of the amount they are to receive, but are ignorant of the manifold requirements of the office before assuming its duties. This being a fact, we suggest that they be compelled to faithfully do their work, or else "step down and out," and let someone have the place who will attend to it. There are medical men in the State who have made great sacrifices of time and labor in serving as secretaries of health boards without any local encouragement, either in the form of thanks or pay. They have earnestly performed the duties, nursing the hope that some day the people would be sufficiently educated to appreciate the necessity of local health organizations and liberally compensate some one in a financial way for the services required. The law specifies how these officials are to be appointed and that they shall be paid, but does not stipulate what salary they are to receive, leaving it entirely with the appointing power to fix the compensation. Experience has proven that county commissioners, town trustees and city councils are usually composed of a class of men who are unwilling to vote any money for sanitary work, or such an insignificant amount as to be out of all proportion to the service rendered. As a result of such parsimonious dealings with the health interests, many of the best men in the service have been obliged to abandon the work, and their places have been supplied with indifferent and ofttimes incompetent men. These authorities, however, have but little trouble in fixing the salaries to be paid those whose only requirements are that they shall be able to read and possibly write their names, and be capable of adding a column of three or four figures. The law should also be amended so that health officers should have a fixed compensation. It might be difficult to arrive at an equitable equalization of salaries. The salaries of other county, town and city officials are fixed by statute, and why not that of health officers? Perhaps the best plan would be to grade the pay according to the population, localities, trades and business interests of the people of the different communities they are called upon to serve. At present, a few of the counties allow the position to be filled by the lowest bidder, without any regard whatever to the qualifications of the applicant. This is a pernicious practice, and one that should be condemned by every reputable man in the profession. The Sanitary News correctly states the case when it says: "There are some commodities that are suitable for the auction block, but brain is not one of them. It is an old theme, this competition bugbear, and it has been written up and written down and written all around. Brain and its intelligent service can not be measured by the foot, the pound or the cord, and inasmuch as it has no unit of measure as to its value except experience, and that a very elastic one, it follows that it can not be compared or bought on the same market as iron pipe, cement or paving blocks."

The health officers of Marshall and Wabash counties, who had been elected to look after the sanitary condition of their respective jurisdictions, and furnish this department with such sanitary and vital statistics as it might require, completely failed to obey the law, after being frequently urged to do so, therefore the spaces opposite these counties have been left blank in the statistical tables.

CHOLERA.

Cholera having prevailed for several years in Europe, it was confidently expected by many that the history of this pestilence would repeat itself, and that our country would receive a visitation of this dreadful disease within the present year. These anticipations have been realized, for on the 7th of September the steamer Alesia, bearing Italian immigrants, arrived in the New York harbor with cholera-infected patients. Several had died with the disease on the voyage; others were at death's door upon its arrival. The passengers of the fated ship were all sent to the quarantine station. Several died, and others were taken with the disease after they were placed there.

The quarantine officers report that the ship has been thoroughly disinfected, and all of its passengers, the sick and healthy, are being well cared for, and say that all possible means are being taken to prevent a spread of the pestilence, but whether they will be able to keep it from reaching inland is a matter which the future alone can develop. Sanitarians throughout the country have not an abiding faith in the New York quarantine, believing that they have not the means at their command to hold the disease in its present quarter, and ultimately stamp it out, therefore the future is looked to with gloomy forebodings, and it is apprehended that the coming year will find cholera claiming its victims in various parts of the country. The fact that it did not reach our shores at an early day is probably due to the extra precautions taken by the Government. Foreign consuls have been instructed to carefully watch all ships leaving for America from ports of infected countries, and also to keep the home government well informed as to the progress of the disease. The Indiana State Board of Health, feeling that there is greater danger from the disease the coming year than at any time during the last, and comprehending the destruction of human life, that a visitation of this pestilence would cause, and recognizing it as a disease whose poison is capable of being carried from place to place, and that filth and dirt furnish suitable soil in which to propagate its peculiar germs, have great hope to be able to place the State in such a good sanitary condition, that if it does obtain a foothold in our country, that it will find no soil within our borders to breed its pestilential microbes. Maintaining a good sanitary condition throughout the State will lessen the prevalence of other diseases peculiar to warm weather.

For the purpose of placing the State in the best possible hygienic condition, county, city and town boards of health are directed to be diligent in observing the following instructions of the State Board:

1. Make a thorough sanitary survey of their respective jurisdictions.

2. See that all accumulations of filth, decaying animal and vegetable matter in roads, streets, alleys, door yards, vacant and occupied lots are removed.

3. That all gutters and drains are kept open and clean, and that they are frequently flushed and disinfected whenever practicable.

4. That all privy vaults, sinks, cess pools, foul cisterns, stagnant ponds, hog pens, foul stables, unwholesome cellars, manure piles, dirty yards or lots, foul sewers and all other places suspected of being injurious to the public health, are thoroughly cleaned, disinfected and purified.

5. That all rank vegetation along streets, sidewalks and gutters of cities and towns is cut and destroyed and not left to rot.

6. Attention is directed to the importance of compelling the proprietors of steamboats and those in control of railway property, owners of hotels and boarding houses, landlords, school officials, sheriffs, city councils, town trustees and others

in control of property to thoroughly clean and disinfect their premises, prepare suitable water closets for their patrons, employes, tenants and pupils, and frequently disinfect them.

7. Attention is called to the necessity of making frequent inspections of all vegetables, fruits and other articles of food offered for sale. Tainted vegetables and fruits are frequently the source of disease during warm weather.

8. See that the carcass of any dead animal, or the offal from slaughter houses, putrid animal substance, or the contents of privy vaults, be not placed upon public grounds, common, field, lot, road, street or alley, or into any river, pond, canal or lake.

There should be thorough whitewashing, drying, ventilating and disinfecting of all parts of habitations by the citizens of the State, so that a high standard of health be maintained. The water supply of the State should receive especial attention, and be very carefully protected from pollution by seepage from foul places and surface washings. Water being the readiest medium through which cholera and typhoid fever spread, the absolute necessity of protecting it from contamination is apparent.

Anyone failing to comply with the foregoing should be prosecuted as provided in sections 2065 to 2075 of the Revised Statutes of 1881, inclusive.

SIXTH ANNUAL REPORT

OF THE

Bureau of Vital and Sanitary Statistics,

FOR THE YEAR ENDING SEPTEMBER 30, 1887.

BY C. N. METCALF, M. D., SECRETARY.

Herewith is presented a tabulated statement of marriages, births and deaths reported for the statistical year ending September 30, 1887. It is scarcely necessary to remark that these tables are incomplete, the number reported in each case falling far short of the actual number occurring. The causes leading to this result have been fully discussed in former reports and need not be reiterated here. This Board is fully acquainted with the difficulties which beset physicians in the matter of making reports of deaths, especially those who do a country practice.

We are convinced that under the present law there is no remedy. County health officers refuse to enforce the law, for the reason, as many of them allege, that they do not wish to incur the displeasure of their brethren in the profession.

In counties where it is known that such a course will be pursued the reports are very meagre, and the secretaries of Boards of Health acknowledge that they are not receiving half as many reports as they should receive.

With a full knowledge of these facts, and with a view of providing a remedy, the following bill was prepared and introduced in the Senate at the last session of the General Assembly:

SENATE BILL No. 213.

AN ACT providing for collecting reports of births, deaths and marriages, requiring a burial permit, and fixing penalties for the violation of its provisions.

SECTION 1. *Be it enacted by the General Assembly of the State of Indiana,* That all births, deaths and marriages shall be registered in records for that purpose, and reported as hereinafter provided.

SEC. 2. It shall be unlawful for any undertaker, sexton or other person to bury any dead body without first having procured a permit so to do; said permit may be issued by any town or city clerk, township trustee or justice of the peace in the township in which said death may occur. No such permit shall be issued by any of said officers except upon presentation of a death certificate, as hereinafter provided.

SEC. 3. It shall be the duty of all physicians, upon the death of persons, in their practice, to make out a report containing the following facts: (1) Name of deceased, (2) age, (3) sex, (4) color, (5) residence, (6) single, married, widow or widower, (7) cause of death, (8) occupation, (9) birthplace, (10) date of death, (11) father's name, (12) father's birthplace, (13) mother's maiden name, (14) mother's birthplace, (15) name of person making the return, (16) postoffice address of person making the return. In all cases where coroners are called upon to hold an inquest, the report of death is to be made by said coroner.

SEC. 4. It shall be the duty of all persons solemnizing marriages to make out, within five days thereafter, a report containing the following facts: (1) Name of groom, (2) place of residence, (3) age next birthday, (4) color, (5) occupation, (6) place of birth, (7) father's name, (8) mother's maiden name, (9) number of groom's marriage, (10) name of bride, (11) place of residence, (12) age next birthday, (13) color, (14) place of birth, (15) father's name, (16) mother's maiden name, (17) number of bride's marriage, (18) place of marriage, (19) by whom marriage ceremony was performed, (20) date. Said report, when so filled out, shall be returned to the clerk by whom the license was issued, who, on the first day of each month, will forward all such reports to the Secretary of the County Board of Health.

SEC. 5. It shall be the duty of physicians and accoucheurs to make out a report of all births occurring under their supervision, containing the following facts: (1) Name of child, if named, (2) number of child of this mother, (3) sex, (4) color, (5) date of birth, (6) place of birth, (7) born dead or alive, (8) legitimate or illegitimate, (9) mother's maiden name, (10) mother's age, (11) mother's birthplace, (12) father's name, (13) father's age, (14) father's occupation, (15) father's birthplace, (16) name of physician or accoucheur, (17) post office of physician or accoucheur.

SEC. 6. All reports of deaths received by any Township Trustee, Town or City Clerk, or any other person entitled to issue a permit to bury any dead body, and all reports of births shall, on the first day of each month, be returned to the town, city or county health officer in which said deaths or births have occurred: *Provided, however*, That nothing in this act shall affect the laws now in force in cities where burial permits are required.

SEC. 7. Any person or persons violating or refusing to perform any duty imposed upon him by the provisions of the foregoing act shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be fined in any sum not less than five nor more than twenty-five dollars.

SEC. 8. All laws and parts of laws in conflict with this act are hereby repealed.

February 4, 1887, the bill was read the first time and referred to the committee on public health. February 10, 1887, it was reported back to the Senate with the recommendation that it do pass. But the unfortunate "dead lock" came on and it went down in the general wreck. By reference to Section 2 of said bill it will be seen that it is made unlawful for any person to bury any dead body without first having secured a permit so to do, and no permit might be issued except upon presentation of a death certificate. In the event that the bill would have become a law, it would have made it necessary for the friends of the deceased to come to the physician for the report, instead of the *vice versa* process under the present law. No change need now be expected before the meeting of the next Legislature in January, 1889.

ZYMOTIC DISEASES.

The whole number of deaths registered within the year from all causes, exclusive of still births, is 16,181, being 578 more than have been reported in any one year since the organization of this Board. Of this number the zymotic diseases caused 4,714 deaths, of which 2,384 were males and 2,330 females. In 1882 for nine months the number of deaths caused by this class of diseases was 3,200; in 1883, 3,835; in 1884, 3,950; in 1885, 4,375, and in 1886, 3,733. The number of deaths from these diseases within the year, as shown by the above figures, is 339, more than for any year since the Board was created. The mortality from zymotic diseases for the past year will not show an increased per cent. over former years, when compared with the total number of deaths from all causes. The reason for this, in our judgment, is due to the improved sanitary condition of the State, which has been brought about by the uniform efforts put forth by the State and local boards of health, and the harmonious manner in which all have worked to accomplish one purpose, viz: *The prevention of disease*, and an improved hygienic condition of the State.

It is a well-known fact to sanitarians and medical men that unsanitary surroundings not only tend to originate and develop, but to spread all of the diseases classed under the head of the zymotic.

Below we present a comparative statement showing the per cent. of mortality during the past five years from nine principal zymotic diseases. The comparison is first made with the whole number of deaths from this class of diseases, and second with the total mortality from all causes.

ZYMOTIC DISEASES.

DISEASES.	1883.		1884.		1885.		1886.		1887.	
	Per Cent. of Mortality to Zymotic Diseases.	Per Cent. to total Mortality.	Per Cent. of Mortality to Zymotic Diseases.	Per Cent. to total Mortality.	Per Cent. of Mortality to Zymotic Diseases.	Per Cent. to total Mortality.	Per Cent. of Mortality to Zymotic Diseases.	Per Cent. to total Mortality.	Per Cent. of Mortality to Zymotic Diseases.	Per Cent. to total Mortality.
Cholera Infantum	13.55	3.49	16.48	4.14	14.33	3.77	14.3	3.7	16.08	4.3
Croup	5.26	1.35	4.68	1.17	6.19	1.62	5.7	1.4	6.93	1.3
Diphtheria	8.05	2.07	6.05	1.52	9.39	2.47	10.	2.7	11.13	3.05
Dysentery	4.14	1.06	5.62	1.41	5.46	1.43	4.2	1.1	6.04	1.01
Fever, Malarial	9.54	2.36	7.49	1.88	6.76	1.78	3.	.7	2.7	.07
Fever, Scarlet	2.97	.76	4.5	1.13	4.45	1.17	7.2	1.1	3.7	1.03
Fever, Typhoid	16.01	4.11	15.08	3.79	17.09	4.5	16.	4.1	15.06	4.17
Fever, Typho-Mal.	2.89	.74	3.97	1.	4.02	1.05	3.5	.7	2.84	.07
Small-pox	5.55	1.42	2.53	.63	.27	.07	Only 1	death.	Only 2	deaths.

TABLE A.

DEATHS BY COUNTIES.

Deaths by Counties Year ending September 30, 1887.

COUNTIES.	1886.						1887.																		Male.	Female.	Total.
	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		April.		May.		June.		July.		Aug.		Sept.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
Adams	1	..	4	3	2	5	2	..	..	4	5	2	..	5	2	1	1	1	2	4	2	7	4	4	25	36	61
Allen	27	29	27	18	23	51	36	37	18	26	31	25	30	26	28	21	19	14	51	43	34	21	33	29	357	320	677
Bartholomew	15	13	10	13	13	9	14	9	11	17	9	11	9	14	6	6	10	6	10	14	16	14	7	15	130	141	271
Benton	4	2	3	2	3	5	2	1	3	2	..	..	4	1	6	2	4	2	2	2	..	..	..	3	31	22	53
Blackford	..	3	3	..	..	..	3	4	1	4	4	..	3	4	2	1	2	2	2	1	2	1	1	1	23	21	44
Boone	14	9	3	7	7	1	8	10	3	3	4	5	11	1	3	2	4	4	8	17	13	5	13	7	91	71	162
Brown	8	5	1	..	3	1	1	2	2	3	1	1	4	6	..	..	..	..	2	2	..	3	1	1	23	24	47
Carroll	15	12	6	10	10	10	12	9	15	9	11	6	2	10	5	9	6	6	8	7	11	8	10	14	111	110	221
Cass	23	15	12	7	11	6	11	7	8	15	10	7	8	18	8	10	7	10	9	5	18	10	17	6	142	116	258
Clark	12	13	8	8	6	6	5	4	4	11	6	8	9	9	7	15	3	8	11	8	10	11	5	12	86	113	199
Clay	3	3	3	4	6	3	12	6	14	7	3	4	12	9	3	2	2	3	5	3	8	7	5	6	76	57	133
Clinton	..	..	6	..	3	1	1	3	1	3	..	..	1	1	3	1	1	..	..	..	..	..	..	1	16	10	26
Crawford	3	1	2	1	5	1	3	4	..	2	1	3	9	4	..	2	2	4	4	6	3	5	2	2	34	35	69
Daviess	5	2	7	8	8	7	9	8	16	8	9	12	21	18	12	1	5	8	16	13	6	13	13	14	127	112	239
Dearborn	5	4	3	7	10	5	6	3	7	9	5	8	6	5	4	2	..	3	10	6	4	7	3	4	63	63	126
Decatur	6	7	4	4	2	9	4	7	8	2	7	3	9	11	3	2	2	6	12	7	6	7	7	3	70	68	138
Dekalb	5	4	5	2	4	3	3	2	5	..	2	3	1	4	1	3	1	1	2	3	2	2	3	..	34	27	61
Delaware	15	12	3	6	6	2	10	13	8	7	12	11	12	10	9	13	4	10	13	15	18	18	12	7	122	124	246
Dubois	5	6	2	4	6	2	4	4	4	6	6	8	8	8	3	3	7	5	9	9	5	4	5	3	64	62	126
Elkhart	12	13	12	13	18	16	18	17	14	14	14	11	11	17	15	13	12	11	15	9	13	9	11	11	165	154	319

Fayette	6	1	1	2	2	1	3	3	1	3	3	1	1	1	2	1	1	..	2	6	5	3	5	2	32	24	56
Floyd	14	14	6	10	11	7	10	11	10	10	2	10	10	13	6	3	4	6	27	8	9	14	5	9	114	115	229
Fountain	9	9	8	12	8	8	5	4	11	4	7	9	10	3	1	5	3	5	6	5	7	1	3	1	78	66	144
Franklin	3	6	5	6	1	7	4	7	5	4	11	3	1	5	3	2	3	4	4	3	1	2	1	5	42	54	96
Fulton	3	7	1	3	3	3	10	3	1	3	2	2	2	2	3	1	2	6	1	1	2	1	..	..	30	32	62
Gibson	2	6	5	7	8	4	9	7	10	14	1	1	25	27	6	5	4	6	5	9	9	12	5	9	89	107	196
Grant	12	11	5	6	2	2	5	3	6	1	..	..	4	3	1	1	..	..	3	4	5	6	2	4	45	41	86
Greene	3	7	6	3	2	1	6	4	3	10	5	4	1	3	7	3	4	5	4	6	4	..	5	3	50	49	99
Hamilton	10	12	3	4	10	3	8	9	13	6	2	3	13	12	8	7	4	4	9	12	10	7	5	12	95	91	186
Hancock	3	6	6	2	2	6	10	6	7	3	5	7	10	11	2	4	1	6	9	18	10	8	6	7	71	84	155
Harrison	22	19	13	8	5	5	3	2	4	2	10	3	6	7	11	2	4	4	5	6	4	4	23	9	110	71	181
Hendricks	10	7	7	7	6	5	4	9	4	5	14	9	9	6	4	5	6	2	2	6	6	7	6	7	78	75	153
Henry	8	5	2	11	14	5	14	8	8	9	17	11	17	25	16	14	8	8	10	8	10	16	15	14	139	134	273
Howard	1	5	2	1	3	..	5	2	4	1	3	10	4	4	6	6	3	5	1	2	4	12	7	5	43	53	96
Huntington	13	11	7	11	16	20	17	14	10	10	6	4	8	8	15	13	10	13	17	6	16	17	14	10	149	137	286
Jackson	11	7	39	48	19	17	17	6	8	7	13	11	13	20	4	13	5	8	17	13	10	10	17	20	173	180	353
Jasper	3	2	3	..	1	4	5	4	3	1	3	..	2	3	5	2	1	3	4	4	1	5	4	3	35	31	66
Jay	12	9	7	5	5	8	4	2	6	4	6	9	3	3	6	3	8	1	3	7	5	7	5	4	70	62	132
Jefferson	1	4	1	1	..	..	5	5	4	5	2	..	2	..	3	2	1	3	5	4	5	3	1	3	30	30	60
Jennings	6	5	2	5	3	2	5	10	10	5	6	7	11	7	8	7	10	8	14	8	4	..	7	4	86	68	156
Johnson	13	7	6	9	5	12	9	10	10	8	10	5	9	5	6	6	1	2	13	11	8	7	9	8	99	90	189
Knox	7	17	4	2	4	5	3	6	5	2	4	2	12	13	8	8	2	4	10	8	9	8	5	7	73	82	155
Kosciusko	5	1	5	6	6	5	12	16	5	2	7	3	1	5	4	1	1	1	4	5	4	5	4	..	58	50	108
Lagrange	1	3	1	3	3	4	3	1	5	2	2	..	6	7	2	9	2	1	4	4	7	2	10	6	46	42	82
Lake	6	10	3	4	3	5	4	3	5	7	5	11	9	4	4	5	4	7	8	10	11	6	1	8	63	80	143
Laporte	15	7	10	9	14	15	19	16	8	9	16	11	21	18	20	15	13	8	34	22	17	15	11	13	198	158	356
Lawrence	3	4	..	1	..	3	2	3	3	2	2	5	4	4	3	1	4	4	2	7	2	1	7	7	32	42	74
Madison	21	12	14	6	12	11	14	17	17	12	14	13	20	24	7	11	..	11	15	8	20	23	12	11	166	162	328
Marion	75	83	78	71	81	70	82	83	67	79	85	68	102	127	116	61	79	78	132	133	65	75	97	69	1,059	997	2,056
Marshall	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	...	...	...
Martin	4	2	4	3	2	3	2	2	..	4	..	2	2	7	1	4	4	..	3	3	1	3	3	2	26	35	61
Miami	7	4	3	10	8	6	2	3	1	1	3	4	11	8	3	3	2	1	10	6	5	1	8	5	63	52	115
Monroe	4	3	3	3	11	11	8	5	4	3	5	3	10	4	2	4	2	2	8	2	1	3	6	3	64	46	110
Montgomery	13	6	7	12	6	7	14	7	12	9	16	14	12	7	13	9	2	12	10	13	22	11	16	12	143	119	252
Morgan	7	6	4	5	4	7	9	7	5	5	4	4	6	13	4	5	4	3	7	1	1	5	1	3	56	64	120
Newton	1	..	..	..	1	..	2	2	..	1	1	1	..	1	1	2	..	..	4	2	1	1	1	1	12	11	23
Noble	2	2	..	3	2	1	5	3	5	4	3	4	1	5	2	3	2	3	4	2	3	6	5	4	34	40	74
Ohio	3	5	1	..	2	..	1	2	2	1	2	3	1	..	..	3	3	4	1	2	1	1	1	4	18	25	43
Orange	6	2	3	2	..	3	4	6	2	5	5	4	7	6	3	3	2	2	5	5	2	1	2	1	41	40	81
Owen	2	3	4	3	4	3	3	3	2	2	6	4	4	2	4	1	2	2	6	2	5	4	4	..	46	29	75

TABLE A.—Continued.

DEATHS BY COUNTIES.—Continued.

Deaths by Counties Year ending September 30, 1887.

COUNTIES.	1886.						1887.																											
	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		April.		May.		June.		July.		Aug.		Sept.		Male.	Female.	Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
Parke	4	2	. .	2	3	1	2	7	1	3	2	5	4	4	1	3	2	2	3	2	5	1	5	6	32	38	70
Perry	. .	. .	. .	. .	. .	. .	3	4	2	5	4	4	1	1	. .	1	2	. .	4	1	1	3	3	5	20	24	44
Pike	5	8	3	3	5	5	2	. .	4	2	3	4	3	1	2	4	2	1	3	1	3	5	4	. .	39	34	73
Porter	. .	. .	2	5	2	1	3	2	2	3	2	2	6	9	11	4	1	3	6	3	6	4	4	. .	45	36	81
Posey	12	13	15	9	10	4	14	8	14	16	26	17	20	15	12	4	8	9	26	16	22	17	2	7	181	135	316
Pulaski	4	7	1	4	5	1	3	6	. .	2	2	2	2	5	3	. .	4	1	1	3	2	2	3	1	30	34	64
Putnam	13	6	10	8	9	6	8	14	7	8	8	6	2	10	7	7	6	4	5	10	15	9	6	7	96	95	191
Randolph	12	9	11	10	6	10	8	11	5	11	3	9	13	20	9	5	10	6	12	15	12	14	12	13	113	133	246
Ripley	3	2	8	4	4	2	6	2	4	5	1	5	4	2	4	. .	8	2	6	2	6	2	5	5	59	33	92
Rush	9	10	5	4	5	2	5	10	6	9	7	3	6	9	2	8	6	4	6	6	13	4	4	3	74	72	146
Scott	3	4	3	. .	5	5	3	1	2	3	4	4	2	1	2	5	. .	2	2	. .	2	5	2	2	30	32	62
Shelby	13	11	8	5	3	5	14	16	9	12	6	12	7	11	3	9	5	4	4	5	8	6	10	8	90	104	194
Spencer	8	15	5	6	5	3	7	6	5	5	4	7	6	11	4	4	6	3	10	8	8	10	8	6	76	84	160
Starke	2	. .	. .	. .	1	. .	4	. .	. .	1	. .	4	. .	1	. .	1	. .	1	2	1	. .	. .	. .	. .	9	9	18
Steuben	3	2	2	2	. .	3	. .	2	1	2	2	. .	2	8	3	1	. .	1	3	3	. .	3	6	2	22	29	51
St. Joseph	17	7	5	3	3	2	6	1	1	3	. .	3	3	1	. .	2	. .	2	7	8	7	4	5	3	54	37	91
Sullivan	3	2	2	2	1	2	2	4	3	1	2	1	4	4	2	5	5	4	4	5	3	2	4	4	35	36	71
Switzerland	5	1	2	. .	4	4	3	3	2	1	3	1	1	4	2	2	1	1	2	3	3	4	4	5	32	29	61
Tippecanoe	19	2	11	9	7	3	4	5	7	7	10	6	10	12	16	5	8	9	10	14	14	7	9	6	125	85	210
Tipton	5	4	. .	. .	3	2	9	5	5	6	1	4	1	3	8	4	4	4	2	2	4	2	2	6	44	42	86

Union	3	2	..	4	2	2	4	5	2	3	3	4	2	1	2	1	2	2	3	4	1	1	2	..	26	29	55
Vanderburgh	48	29	36	41	43	41	49	49	44	34	54	52	55	53	66	25	54	48	63	57	48	36	36	43	596	508	1,104
Vermillion	3	2	2	..	2	3	2	2	..	2	3	..	2	4	1	..	1	1	1	6	3	2	1	..	21	22	43
Vigo	33	17	17	22	24	21	33	28	20	24	11	14	34	37	17	13	18	18	35	25	38	24	29	28	309	271	580
Wabash	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Warren	2	7	7	2	3	8	..	..	2	2	2	1	4	4	3	..	6	2	4	7	3	2	3	3	39	38	77
Warrick	7	4	4	5	7	7	1	1	4	7	7	6	10	5	11	5	4	3	10	9	16	9	8	9	89	70	159
Washington	10	7	5	4	2	..	2	5	4	2	3	4	12	15	5	6	2	3	6	6	7	11	6	6	64	69	133
Wayne	30	30	27	27	22	31	24	19	19	28	31	18	25	20	25	21	17	16	26	17	28	23	15	22	289	272	561
Wells	3	2	.	3	5	2	1	..	..	1	..	1	4	2	2	..	4	1	2	4	1	5	2	2	24	23	47
White	2	1	..	..	..	.	1	7	..	5	5	2	2	5	1	3	..	..	4	2	2	3	2	1	19	30	49
Whitley	9	4	1	1	5	2	4	5	4	7	2	..	10	6	3	4	3	12	4	8	7	8	9	3	61	60	121
Grand total	812	686	591	599	634	565	736	682	665	632	656	590	813	970	667	500	492	500	890	766	770	690	702	633	8,368	7,813	16,181

TABLE B.

CAUSES OF DEATH.

Showing Total Number of Deaths by Months, Sex and Color, Year Ending September 30, 1887.

CLASS ONE—ZYMOTIC DISEASES.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Male.	Female.	White.	Colored.	Total.
ORDER ONE—MIASMATIC.																	
Anthrax	3	...	...	1	3	...	...	1	...	2	...	...	6	4	10	....	10
Chill, congestive	3	3	2	2	3	...	4	1	4	4	2	3	14	17	31	....	31
Cholera infantum	66	11	4	4	2	4	11	6	38	290	202	120	396	362	748	10	758
Cholera morbus	5	...	...	...	1	...	1	...	...	8	14	4	16	17	32	1	33
Croup	48	59	55	48	24	24	18	12	6	6	8	19	172	155	320	7	327
Diarrhœa	20	8	10	5	3	4	6	4	2	31	24	15	85	47	129	3	132
Diphtheria	102	96	64	48	19	21	28	30	25	19	31	42	231	294	512	13	525
Dysentery	46	12	1	2	7	3	4	4	14	48	81	63	149	136	282	3	285
Entero-colitis	18	4	...	1	1	3	2	3	5	26	22	11	47	49	91	5	96
Erysipelas	8	10	7	3	11	9	6	1	4	3	3	5	40	30	70	...	70
Fever, catarrhal	...	4	3	11	7	4	6	...	...	...	1	1	25	12	37	....	37
Fever, cerebro spinal	17	8	13	7	20	25	21	9	8	8	7	7	81	69	143	7	150
Fever, congestive	1	1	1	1	...	...	1	3	2	2	1	3	6	10	14	2	16
Fever, continued	...	...	1	...	1	1	3	2	...	...	...	1	4	5	9	....	9
Fever, intermittent	...	...	...	1	2	...	1	1	...	4	...	...	3	6	9	....	9
Fever, malarial	16	5	5	9	7	5	14	4	9	16	16	24	55	75	123	7	130
Fever, pernicious	3	1	...	...	...	...	...	1	..	1	3	1	5	5	10	....	10
Fever, puerperal	5	6	11	3	9	3	11	4	7	8	2	5	....	74	70	4	74
Fever, remittent	4	...	1	3	1	...	3	1	2	1	5	3	7	17	24	....	24
Fever, rheumatic	...	...	...	1	...	1	2	1		1	...	...	2	4	6	....	6
Fever, scarlet	10	7	13	19	14	11	30	24	17	14	9	10	99	79	178	....	178
Fever, typhoid	115	85	46	25	33	33	47	26	23	40	102	145	388	332	700	20	720
Fever, typhoid malarial	15	29	12	15	7	6	2	4	6	6	10	22	70	64	116	18	134
Gangrene	2	2	2	6	5	2	4	...	2	2	2	1	13	17	30	...	30
Measles	...	...	4	10	23	40	75	68	15	17	4	3	133	126	252	7	259
Peritonitis puerperal	1	...	...	2	5	2	1	2	1	...	...	2	....	16	16	....	16
Pertussis	9	10	13	8	4	11	17	10	15	22	23	9	67	84	138	13	151

Pyæmia	7	14	11	11	8	9	17	5	4	15	10	8	58	61	113	6	119
Septæmia puerperal	1	...	1	3	2	1	2	...	1	3	...	...	...	14	14	...	14
Smallpox	...	...	...	...	...	...	...	...	2	...	...	...	...	2	2	...	2
Worms	...	1	...	...	...	...	...	...	...	...	...	...	...	1	1	...	1
Total	525	376	280	249	222	222	337	227	212	597	582	527	2,172	2,184	4,230	126	4,356
ORDER TWO—ENTHETIC.																	
Syphilis, acquired	1	1		...	1	2	3	1	...	1	2	3	9	6	15	...	15
Syphilis, congenital	2	...	1	1	...	2	1	2	2	2	...	1	7	7	12	2	14
Total	3	1	1	1	1	4	4	3	2	3	2	4	16	13	27	2	29
ORDER THREE—DIETIC.																	
Delirium tremens	...	...	...	...	2	...	...	...	1	1	2	...	6	...	6	...	6
Eczema	1	...	...	1	...	...	1	...	2	1	...	...	3	3	5	1	6
Inanition	32	26	24	24	16	13	17	14	6	36	28	28	147	117	251	13	264
Intemperance	6	...	2	...	2	7	2	3	1	6	2	3	31	3	34	...	34
Purpura	1	2	1	3	1	...	...	1	...	2	4	...	6	9	15	...	15
Total	40	28	27	28	21	20	20	18	10	46	36	31	193	132	311	14	325
ORDER FOUR—PARASITIC.																	
Aphtha	...	1	...	...	...	...	...	1	...	1	1	...	3	1	4	...	4
Total	...	1	...	...	...	...	...	1	...	1	1	...	3	1	4	...	4
Total zymotic diseases	568	406	308	278	244	246	361	249	224	647	621	562	2,384	2,330	4,572	142	4,714

TABLE B—Continued.

CLASS TWO—CONSTITUTIONAL.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Male.	Female.	White.	Colored.	Total.
ORDER ONE—DIATHETIC.																	
Anæmia	2	1	1	4	...	1	2	2	7	2	4	2	11	17	28	...	28
Cancer	31	19	26	26	24	29	26	24	17	30	30	24	97	209	299	7	306
Dropsy	17	12	24	20	14	10	25	13	16	15	13	16	93	102	187	8	195
Goitre	...	...	...	...	...	1	...	...	...	...	...	...	...	1	1	...	1
Leucocythæmia	...	...	2	...	1	...	1	...	1	1	...	...	1	5	6	...	6
Lupus	...	...	...	...	...	...	...	1	...	...	...	...	...	1	1	...	1
Lymphadenoma	...	1	...	...	...	...	...	...	1	...	...	...	1	1	2	...	2
Rheumatism	9	5	6	9	3	5	9	7	9	7	1	4	43	31	71	3	74
Total	59	38	59	59	42	46	63	47	51	55	48	46	246	367	595	18	613
ORDER TWO—TUBERCULAR.																	
Abscess, psoas	1	...	...	1	...	1	...	...	1	...	...	...	1	3	4	...	4
Hydrocephalus	2	2	1	2	6	1	3	3	3	5	2	7	19	18	36	1	37
Meningitis tubercular	5	3	...	2	7	8	9	5	2	6	8	4	34	25	53	6	59
Morbus coxarius	...	...	...	1	1	...	...	...	...	...	...	1	2	1	3	...	3
Phthisis	168	156	154	166	179	167	254	179	178	189	140	142	907	1,165	1,919	153	2,072
Scrofula	3	1	2	3	4	4	5	5	4	3	6	1	24	17	37	4	41
Tabes mesenterica	5	4	1	1	...	2	2	3	3	3	4	2	14	16	29	1	30
Total	184	166	158	176	197	183	273	195	191	206	160	157	1,001	1,245	2,081	165	2,246
Total constitutional diseases	243	204	217	235	239	229	336	242	242	261	208	203	1,247	1,612	2,676	183	2,859

TABLE B.—Continued.

CLASS THREE—LOCAL DISEASES.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Male.	Female.	White.	Colored.	Total.
ORDER ONE—NERVOUS SYSTEM.																	
Apoplexy	15	14	18	17	16	27	27	16	20	25	17	17	124	105	225	4	229
Brain, abscess	3	...	1	...	1	...	3	2	1	...	...	1	7	5	11	1	12
Brain, congestion	21	15	11	27	9	16	27	15	29	29	15	11	120	105	217	8	225
Brain, disease	5	6	...	1	2	1	2	...	7	...	4	5	16	17	29	4	33
Brain, effusion	...	...	...	...	2	...	...	...	...	...	...	...	2	...	2	...	2
Brain fever	7	3	3	3	2	...	6	5	1	18	13	5	33	33	63	3	66
Brain, softening	5	2	2	6	6	3	3	5	7	4	4	2	28	21	48	1	49
Cerebritis	9	5	8	17	9	13	11	10	8	11	12	15	69	59	124	4	128
Chorea	...	1	1	...	...	...	...	1	2	...	...	...	1	4	5	...	5
Convulsions	17	13	24	28	20	27	29	13	16	46	25	19	143	134	263	14	277
Epilepsy	2	5	3	4	2	2	3	1	3	6	3	...	16	18	31	3	34
Locomotor ataxia	...	...	...	...	2	...	...	...	...	...	...	1	3	...	3	...	3
Meningitis	28	17	21	28	21	35	28	28	19	17	16	17	160	115	267	8	275
Meningitis, cerebral	...	...	...	4	9	8	4	5	3	11	6	1	24	27	49	2	51
Meningitis, spinal	4	...	3	1	1	1	7	4	5	6	7	2	17	24	41	...	41
Muscular atrophy	...	...	...	1	...	...	...	...		...	...	...	...	1	1	...	1
Myelitis	1	...	...	1	...	...	...	1	1	...	...	1	3	2	5	...	5
Nervous prostration	1	10	...	4	4	2	1	1	3	...	1	2	10	19	29	...	29
Neuralgia	...	2	...	...	...	...	2	3	...	1	1	...	3	6	9	...	9
Neurasthenia	...	...	...	...	...	...	1	1	...	1	...	1	2	2	4	...	4
Paralysis	23	20	25	30	23	29	34	35	24	32	22	27	180	144	310	14	324
Rachitis	1	...	...	1	...	...	1	1	...	1	1	1	3	4	7	...	7
Spina bifida	1	1	2	1	2	...	...	2	2	5	2	...	12	6	17	1	18
Spinal schlerosis	...	...	...	1	...	...	...	3	...	...	...	...	2	2	4	...	4
Spine disease	2	1	5	1	2	1	1	4	...	...	3	1	13	8	20	1	21
Tetanus	1	4	2	2	2	...	2	...	4	5	2	3	15	12	27	...	27
Total	146	119	129	178	135	165	192	156	155	218	154	132	1,016	863	1,811	68	1,879

TABLE B.—Continued.

CLASS THREE—LOCAL DISEASES.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Male.	Female.	White.	Colored.	Total.
Order Two—Circulatory.																	
Aneurism	...	...	2	1	1	1	1	...	...	...	...	...	5	1	6	...	6
Congestion	3	1	3	4	...	...	3	1	...	2	2	...	8	11	19	...	19
Embolism	1	...	...	1	...	...	3	2	...	...	...	...	1	6	7	...	7
Epistaxis	...	...	...	1	...	...	1	...	1	...	1	...	1	3	4	...	4
Heart disease	63	53	63	56	61	63	72	59	45	61	59	46	357	344	666	35	701
Hemorrhage	...	1	...	1	1	...	2	...	...	2	...	1	5	3	8	...	8
Phlebitis	...	1	...	...	...	...	...	...	...	...	1	1	1	2	3	...	3
Syncope	...	...	...	...	1	...	...	...	...	...	...	...	1	...	1	...	1
Total	67	56	68	64	64	64	82	62	46	65	63	48	379	370	714	35	749
Order Three—Respiratory.																	
Asthma	1	3	1	6	2	9	5	4	2	4	2	3	21	21	40	2	42
Bronchitis	18	20	33	55	48	35	48	23	15	14	6	11	170	156	313	13	326
Catarrh	1	...	...	1	...	3	2	...	1	...	...	...	4	4	7	1	8
Glottis Oedema	...	...	1	1	...	...	...	...	...	...	...	...	...	2	2	...	2
Haemoptysis	9	4	5	1	3	...	1	2	1	6	2	1	22	13	34	1	35
Hydrothorax	...	...	1	2	...	...	2	...	1	...	...	1	5	2	7	...	7
Influenza	...	1	...	...	...	...	...	...	...	...	...	...	1	...	1	...	1
Laryngitis	7	5	4	3	4	6	...	1	3	2	...	1	16	20	33	3	36
Lungs, abscess	2	2	...	1	4	4	2	2	1	...	3	1	19	3	21	1	22
Lungs, congestion	12	10	10	22	21	14	16	22	6	7	2	4	76	70	137	9	146
Lungs, disease	...	...	...	...	1	1	...	2	...	...	...	...	3	1	3	1	4
Lungs, emphysema	...	...	1	...	2	5	...	2	...	...	...	1	5	6	11	...	11
Lungs, oedema	...	...	...	1	...	1	...	1	1	...	...	...	3	1	4	...	4
Pharyngitis	...	...	1	...	1	...	1	...	...	...	...	...	...	3	3	...	3
Pleuritis	1	1	4	1	2	...	3	4	1	...	...	2	13	6	18	1	19
Pneumonitis	45	77	141	203	170	186	228	98	41	48	26	27	706	584	1,220	70	1,290
Pneumonitis, broncho	...	...	...	2	2	1	4	...	...	...	...	...	4	5	9	...	9
Pneumonitis, Catarrhal	...	...	...	3	1	1	2	...	...	...	...	...	5	2	7	...	7
Pneumonitis, Pleuro	...	...	1	2	2	...	1	3	2	1	1	...	5	8	13	...	13
Pneumonitis, Typho	4	7	5	5	9	9	13	4	5	1	1	...	35	28	61	2	63
Total	100	130	208	309	272	275	328	168	80	83	43	52	1,113	935	1,944	104	2,048

FOUR—DIGESTIVE.																	
Bowels, Catarrh	1	4	1	1	2	...	1	...	...	...	...	...	2	8	10	....	10
Bowels, Congestion	5	5	5	5	2	3	4	2	1	11	1	6	29	21	48	2	50
Bowels, Disease	...	...	...	...	...	...	2	...	...	...	...	...	2	....	2	....	2
Bowels, Hemorrhage	1	1	2	...	3	1	1	...	...	1	2	...	6	6	12	....	12
Bowels, Obstruction	3	5	5	6	3	1	2	5	5	2	3	2	21	21	41	1	42
Bowels, Paralysis	1	...	...	2	...	...	...	...	...	...	...	...	3	....	3	....	3
Bowels, Ulceration	2	2	...	...	...	1	...	...	...	1	...	2	5	3	6	2	8
Colic	...	2	...	...	1	...	...	1	...	4	4	3	9	6	15	....	15
Colitis	3	...	...	...	1	1	1	...	2	...	...	...	5	3	8	....	8
Dyspepsia	2	...	2	3	1	2	3	1	1	1	1	1	13	5	18	...	18
Enteritis	32	21	11	15	14	4	16	17	19	30	25	20	120	104	216	8	224
Gall Stones	2	2	...	...	...	...	1	...	...	...	...	...	3	2	5	....	5
Gastritis	15	10	8	14	6	3	18	11	10	20	8	9	70	62	129	3	132
Gastro-Enteritis	5	1	2	6	1	2	4	2	...	6	5	5	24	15	37	2	39
Haematemesis	1	...	...	...	...	...	...	...	...	...	...	...	....	1	1	....	1
Hepatitis	2	7	4	3	5	2	5	3	1	7	6	6	23	28	50	1	51
Hernia	2	2	2	6	3	3	2	3	...	3	3	1	18	12	29	1	30
Intestinal Perforation	..	...	...	...	2	...	...	...	...	...	...	...	1	1	2	....	2
Intussusception	2	...	1	1	5	1	3	2	2	2	2	5	16	10	25	1	26
Jaundice	1	1	3	2	3	1	...	2	1	3	3	6	11	15	26	....	26
Liver, Abscess	3	...	...	3	1	1	1	5	1	1	2	1	10	9	19	....	19
Liver, Atrophy	...	...	...	3	...	...	2	...	...	...	...	...	3	2	5	....	5
Liver, Cirrhosis	...	...	...	3	2	7	4	4	2	2	4	3	25	6	31	....	31
Liver, Congestion	2	...	...	1	...	4	1	3	...	...	...	...	9	2	11	....	11
Liver, disease	5	4	1	4	2	2	1	1	3	4	2	2	18	13	31	....	31
Liver, hypertrophy	...	...	...	...	1	...	1	...	1	...	...	...	1	2	3	....	3
Oesophagus, stricture	...	1	...	...	...	1	...	...	...	1	...	...	2	1	3	....	3
Peritonitis	15	11	11	21	14	13	8	8	8	10	9	16	53	91	135	9	144
Splenitis	...	...	...	...	...	3	...	2	1	...	...	...	3	3	6	....	6
Stomach, catarrh	...	...	...	1	1	1	...	1	...	2	2	3	6	5	11	....	11
Stomach, congestion	5	1	4	1	2	4	5	3	1	13	14	7	27	33	59	1	60
Stomach, disease	5	4	1	...	...	...	...	...	1	...	...	...	6	5	11	....	11
Stomach, hemorrhage	...	...	...	1	1	...	...	...	...	...	...	...	2	....	2	....	2
Stomach, ulceration	2	1	1	2	4	3	1	2	...	2	2	1	10	11	20	1	21
Stomatitis	1	3	...	...	...	...	...	...	1	...	...	...	3	2	5	....	5
Throat disease	1	...	...	...	1	...	1	2	...	2	...	...	7	....	6	1	7
Tonsilitis	3	2	3	...	1	1	1	...	1	...	3	1	5	11	16	....	16
Typhlitis	...	...	2	...	1	1	1	1	...	1	1	1	8	1	9	....	9
Total	122	90	69	104	83	66	90	81	62	129	102	101	579	520	1,066	33	1,099

TABLE A.—Continued.

DEATHS BY COUNTIES.—Continued.

Deaths by Counties Year ending September 30, 1887.

COUNTIES.	1886.						1887.																								Male.	Female.	Total.
	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		April.		May.		June.		July.		Aug.		Sept.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
Parke	4	2	..	2	3	1	2	7	1	3	2	5	4	4	1	3	2	2	3	2	5	1	5	6	32	38	70
Perry	..	..	..	..	..	..	3	4	2	5	4	4	1	1	..	1	2	..	4	1	1	3	3	5	20	24	44
Pike	5	8	3	3	5	5	2	..	4	2	3	4	3	1	2	4	2	1	3	1	3	5	4	..	39	34	73
Porter	..	..	2	5	2	1	3	2	2	3	2	2	6	9	11	4	1	3	6	3	6	4	4	..	45	36	81
Posey	12	13	15	9	10	4	14	8	14	16	26	17	20	15	12	4	8	9	26	16	22	17	2	7	181	135	316
Pulaski	4	7	1	4	5	1	3	6	..	2	2	2	2	5	3	..	4	1	1	3	2	2	3	1	30	34	64
Putnam	13	6	10	8	9	6	8	14	7	8	8	6	2	10	7	7	6	4	5	10	15	9	6	7	96	95	191
Randolph	12	9	11	10	6	10	8	11	5	11	3	9	13	20	9	5	10	6	12	15	12	14	12	13	113	133	246
Ripley	3	2	8	4	4	2	6	2	4	5	1	5	4	2	4	..	8	2	6	2	6	2	5	5	59	33	92
Rush	9	10	5	4	5	2	5	10	6	9	7	3	6	9	2	8	6	4	6	6	13	4	4	3	74	72	146
Scott	3	4	3	..	5	5	3	1	2	3	4	4	2	1	2	5	..	2	2	..	2	5	2	2	30	32	62
Shelby	13	11	8	5	3	5	14	16	9	12	6	12	7	11	3	9	5	4	4	5	8	6	10	8	90	104	194
Spencer	8	15	5	6	5	3	7	6	5	5	4	7	6	11	4	4	6	3	10	8	8	10	8	6	76	84	160
Starke	2	..	..	..	1	..	4	..	..	1	..	4	..	1	..	1	..	1	2	1	..	..	..	..	9	9	18
Steuben	3	2	2	2	..	3	..	2	1	2	2	..	2	8	3	1	..	1	3	3	..	3	6	2	22	29	51
St. Joseph	17	7	5	3	3	2	6	1	1	3	..	3	3	1	..	2	..	2	7	8	7	4	5	3	54	37	91
Sullivan	3	2	2	2	1	2	2	4	3	1	2	1	4	4	2	5	5	4	4	5	3	2	4	4	35	36	71
Switzerland	5	1	2	..	4	4	8	3	2	1	3	1	1	4	2	2	1	1	2	3	3	4	4	5	32	29	61
Tippecanoe	19	2	11	9	7	3	4	5	7	7	10	6	10	12	16	5	8	9	10	14	14	7	9	6	125	85	210
Tipton	5	4	..	..	3	2	9	5	5	6	1	4	1	3	8	4	4	4	2	2	4	2	2	6	44	42	86

Union	3	2	. .	4	2	2	4	5	2	3	3	4	2	1	2	1	2	2	3	4	1	1	2	. .	26	29	55
Vanderburgh	48	29	36	41	43	41	49	49	44	34	54	52	55	53	66	25	54	48	63	57	48	36	36	43	596	508	1,104
Vermillion	3	2	2	. .	2	3	2	2	. .	2	3	. .	2	4	1	. .	1	1	1	6	3	2	1	. .	21	22	43
Vigo	33	17	17	22	24	21	33	28	20	24	11	14	34	37	17	13	18	18	35	25	38	24	29	28	309	271	580
Wabash	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Warren	2	7	7	2	3	8	. .	. .	2	2	2	1	4	4	3	. .	6	2	4	7	3	2	3	3	39	38	77
Warrick	7	4	4	5	7	7	1	1	4	7	7	6	10	5	11	5	4	3	10	9	16	9	8	9	89	70	159
Washington	10	7	5	4	2	. .	2	5	4	2	3	4	12	15	5	6	2	3	6	6	7	11	6	6	64	69	133
Wayne	30	30	27	27	22	31	24	19	19	28	31	18	25	20	25	21	17	16	26	17	28	23	15	22	289	272	561
Wells	3	2	.	3	5	2	1	. .	. .	1	. .	1	4	2	2	. .	4	1	2	4	1	5	2	2	24	23	47
White	2	1	. .	. .	. .	.	1	7	. .	5	5	2	2	5	1	3	. .	. .	4	2	2	3	2	1	19	30	49
Whitley	9	4	1	1	5	2	4	5	4	7	2	. .	10	6	3	4	3	12	4	8	7	8	9	3	61	60	121
Grand total	812	686	591	599	634	565	736	682	665	632	656	590	813	970	667	500	492	500	890	766	770	690	702	633	8,368	7,813	16,181

TABLE B.

CAUSES OF DEATH.

Showing Total Number of Deaths by Months, Sex and Color, Year Ending September 30, 1887.

CLASS ONE—ZYMOTIC DISEASES.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Male.	Female.	White.	Colored.	Total.
ORDER ONE—MIASMATIC.																	
Anthrax	3	...	...	1	3	...	...	1	...	2	...	...	6	4	10	...	10
Chill, congestive	3	3	2	2	3	...	4	1	4	4	2	3	14	17	31	...	31
Cholera infantum	66	11	4	4	2	4	11	6	38	290	202	120	396	362	748	10	758
Cholera morbus	5	...	...	...	1	...	1	...	...	8	14	4	16	17	32	1	33
Croup	48	59	55	48	24	24	18	12	6	6	8	19	172	155	320	7	327
Diarrhœa	20	8	10	5	3	4	6	4	2	31	24	15	85	47	129	3	132
Diphtheria	102	96	64	48	19	21	28	30	25	19	31	42	231	294	512	13	525
Dysentery	46	12	1	2	7	3	4	4	14	48	81	63	149	136	282	3	285
Entero-colitis	18	4	...	1	1	3	2	3	5	26	22	11	47	49	91	5	96
Erysipelas	8	10	7	3	11	9	6	1	4	3	3	5	40	30	70	...	70
Fever, catarrhal	...	4	3	11	7	4	6	...	...	...	1	1	25	12	37	...	37
Fever, cerebro spinal	17	8	13	7	20	25	21	9	8	8	7	7	81	69	143	7	150
Fever, congestive	1	1	1	1	...	...	1	3	2	2	1	3	6	10	14	2	16
Fever, continued	...	...	1	...	1	1	3	2	...	...	...	1	4	5	9	...	9
Fever, intermittent	...	...	...	1	2	...	1	1	...	4	...	...	3	6	9	...	9
Fever, malarial	16	5	5	9	7	5	14	4	9	16	16	24	55	75	123	7	130
Fever, pernicious	3	1	...	...	...	...	...	1	...	1	3	1	5	5	10	...	10
Fever, puerperal	5	6	11	3	9	3	11	4	7	8	2	5	...	74	70	4	74
Fever, remittent	4	...	1	3	1	...	3	1	2	1	5	3	7	17	24	...	24
Fever, rheumatic	...	...	...	1	...	1	2	1		1	...	...	2	4	6	...	6
Fever, scarlet	10	7	13	19	14	11	30	24	17	14	9	10	99	79	178	...	178
Fever, typhoid	115	85	46	25	33	33	47	26	23	40	102	145	388	332	700	20	720
Fever, typhoid malarial	15	29	12	15	7	6	2	4	6	6	10	22	70	64	116	18	134
Gangrene	2	2	2	6	5	2	4	...	2	2	2	1	13	17	30	...	30
Measles	...	...	4	10	23	40	75	68	15	17	4	3	133	126	252	7	259
Peritonitis puerperal	1	...	...	2	5	2	1	2	1	...	...	2	...	16	16	...	16
Pertussis	9	10	13	8	4	11	17	10	15	22	23	9	67	84	138	13	151

Pyæmia	7	14	11	11	8	9	17	5	4	15	10	8	58	61	113	6	119
Septæmia puerperal	1	...	1	3	2	1	2	...	1	3	...	...	....	14	14	....	14
Smallpox	...	...	...	...	...	...	...	...	2	...	...	...	....	2	2	...	2
Worms	...	1	...	...	...	..	...	...	...	...	...	...	....	1	1	....	1
Total	525	376	280	249	222	222	337	227	212	597	582	527	2,172	2,184	4,230	126	4,356
ORDER TWO—ENTHETIC.																	
Syphilis, acquired	1	1		...	1	2	3	1	...	1	2	3	9	6	15	....	15
Syphilis, congenital	2	...	1	1	...	2	1	2	2	2	...	1	7	7	12	2	14
Total	3	1	1	1	1	4	4	3	2	3	2	4	16	13	27	2	29
ORDER THREE—DIETIC.																	
Delirium tremens	...	.	...	...	2	...	...	...	1	1	2	...	6	....	6	....	6
Eczema	1	...	...	1	...	...	1	...	2	1	...	..	3	3	5	1	6
Inanition	32	26	24	24	16	13	17	14	6	36	28	28	147	117	251	13	264
Intemperance	6	...	2	...	2	7	2	3	1	6	2	3	31	3	34	....	34
Purpura	1	2	1	3	1	...	...	1	...	2	4	...	6	9	15	....	15
Total	40	28	27	28	21	20	20	18	10	46	36	31	193	132	311	14	325
ORDER FOUR—PARASITIC.																	
Aphtha	...	1	...	...	...	...	...	1	...	1	1	...	3	1	4	....	4
Total	...	1	...	...	..	...	...	1	...	1	1	...	3	1	4	....	4
Total zymotic diseases	568	406	308	278	244	246	361	249	224	647	621	562	2,384	2,330	4,572	142	4,714

TABLE B—Continued.

CLASS TWO—CONSTITUTIONAL.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Male.	Female.	White.	Colored.	Total.
ORDER ONE—DIATHETIC.																	
Anæmia	2	1	1	4	...	1	2	2	7	2	4	2	11	17	28	...	28
Cancer	31	19	26	26	24	29	26	24	17	30	30	24	97	209	299	7	306
Dropsy	17	12	24	20	14	10	25	13	16	15	13	16	93	102	187	8	195
Goitre	...	...	...	...	...	1	...	...	...	...	...	...	...	1	1	...	1
Leucocythæmia	...	...	2	...	1	...	1	...	1	1	...	...	1	5	6	...	6
Lupus	...	...	...	...	...	...	...	1	...	...	...	...	...	1	1	...	1
Lymphadenoma	...	1	...	...	...	...	...	...	1	...	...	...	1	1	2	...	2
Rheumatism	9	5	6	9	3	5	9	7	9	7	1	4	43	31	71	3	74
Total	59	38	59	59	42	46	63	47	51	55	48	46	246	367	595	18	613
ORDER TWO—TUBERCULAR.																	
Abscess, psoas	1	...	...	1	...	1	...	...	1	...	...	...	1	3	4	...	4
Hydrocephalus	2	2	1	2	6	1	3	3	3	5	2	7	19	18	36	1	37
Meningitis tubercular	5	3	...	2	7	8	9	5	2	6	8	4	34	25	53	6	59
Morbus coxarius	...	...	...	1	1	...	...	...	...	...	...	1	2	1	3	...	3
Phthisis	168	156	154	166	179	167	254	179	178	189	140	142	907	1,165	1,919	153	2,072
Scrofula	3	1	2	3	4	4	5	5	4	3	6	1	24	17	37	4	41
Tabes mesenterica	5	4	1	1	...	2	2	3	3	3	4	2	14	16	29	1	30
Total	184	166	158	176	197	183	273	195	191	206	160	157	1,001	1,245	2,081	165	2,246
Total constitutional diseases	243	204	217	235	239	229	336	242	242	261	208	203	1,247	1,612	2,676	183	2,859

TABLE B.—Continued.

CLASS THREE—LOCAL DISEASES.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Male.	Female.	White.	Colored.	Total.
ORDER ONE—NERVOUS SYSTEM.																	
Apoplexy	15	14	18	17	16	27	27	16	20	25	17	17	124	105	225	4	229
Brain, abscess	3	...	1	...	1	...	3	2	1	...	...	1	7	5	11	1	12
Brain, congestion	21	15	11	27	9	16	27	15	29	29	15	11	120	105	217	8	225
Brain, disease	5	6	...	1	2	1	2	...	7	...	4	5	16	17	29	4	33
Brain, effusion	...	...	...	...	2	...	...	...	...	...	...	...	2	...	2	...	2
Brain fever	7	3	3	3	2	...	6	5	1	18	13	5	33	33	63	3	66
Brain, softening	5	2	2	6	6	3	3	5	7	4	4	2	28	21	48	1	49
Cerebritis	9	5	8	17	9	13	11	10	8	11	12	15	69	59	124	4	128
Chorea	...	1	1	...	...	...	...	1	2	...	...	...	1	4	5	...	5
Convulsions	17	13	24	28	20	27	29	13	16	46	25	19	143	134	263	14	277
Epilepsy	2	5	3	4	2	2	3	1	3	6	3	...	16	18	31	3	34
Locomotor ataxia	...	...	...	...	2	...	...	...	...	...	...	1	3	...	3	...	3
Meningitis	28	17	21	28	21	35	28	28	19	17	16	17	160	115	267	8	275
Meningitis, cerebral	...	...	...	4	9	8	4	5	3	11	6	1	24	27	49	2	51
Meningitis, spinal	4	...	3	1	1	1	7	4	5	6	7	2	17	24	41	...	41
Muscular atrophy	...	...	...	1	...	...	...	...	...	...	...	...	...	1	1	...	1
Myelitis	1	...	...	1	...	...	...	1	1	...	...	1	3	2	5	...	5
Nervous prostration	1	10	...	4	4	2	1	1	3	...	1	2	10	19	29	...	29
Neuralgia	...	2	...	...	...	...	2	3	...	1	1	...	3	6	9	...	9
Neurasthenia	...	...	...	...	...	...	1	1	...	1	...	1	2	2	4	...	4
Paralysis	23	20	25	30	23	29	34	35	24	32	22	27	180	144	310	14	324
Rachitis	1	...	...	1	...	...	1	1	...	1	1	1	3	4	7	...	7
Spina bifida	1	1	2	1	2	...	...	2	2	5	2	...	12	6	17	1	18
Spinal schlerosis	...	...	...	1	...	...	...	3	...	...	...	...	2	2	4	...	4
Spine disease	2	1	5	1	2	1	1	4	...	...	3	1	13	8	20	1	21
Tetanus	1	4	2	2	2	...	2	...	4	5	2	3	15	12	27	...	27
Total	146	119	129	178	135	165	192	156	155	218	154	132	1,016	863	1,811	68	1,879

TABLE B.—Continued.

CLASS THREE—LOCAL DISEASES.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Male.	Female.	White.	Colored.	Total.
ORDER TWO—CIRCULATORY.																	
Aneurism	...	...	2	1	1	1	1	...	...	...	...	...	5	1	6	...	6
Congestion	3	1	3	4	...	...	3	1	...	2	2	...	8	11	19	...	19
Embolism	1	...	...	1	...	...	3	2	...	...	...	...	1	6	7	...	7
Epistaxis	...	...	...	1	...	...	1	...	1	...	1	...	1	3	4	...	4
Heart disease	63	53	63	56	61	63	72	59	45	61	59	46	357	344	666	35	701
Hemorrhage	...	1	...	1	1	...	2	...	...	2	...	1	5	3	8	...	8
Phlebitis	...	1	...	...	...	...	...	...	...	...	1	1	1	2	3	...	3
Syncope	...	...	...	...	1	...	...	...	...	...	...	...	1	...	1	...	1
Total	67	56	68	64	64	64	82	62	46	65	63	48	379	370	714	35	749
ORDER THREE—RESPIRATORY.																	
Asthma	1	3	1	6	2	9	5	4	2	4	2	3	21	21	40	2	42
Bronchitis	18	20	33	55	48	35	48	23	15	14	6	11	170	156	313	13	326
Catarrh	1	...	...	1	...	3	2	...	1	...	...	...	4	4	7	1	8
Glottis Oedema	...	...	1	1	...	...	...	...	...	...	...	...	...	2	2	...	2
Haemoptysis	9	4	5	1	3	...	1	2	1	6	2	1	22	13	34	1	35
Hydrothorax	...	...	1	2	...	...	2	...	1	...	...	1	5	2	7	...	7
Influenza	...	1	...	...	...	...	...	...	...	...	...	...	1	...	1	...	1
Laryngitis	7	5	4	3	4	6	...	1	3	2	...	1	16	20	33	3	36
Lungs, abscess	2	2	...	1	4	4	2	2	1	...	3	1	19	3	21	1	22
Lungs, congestion	12	10	10	22	21	14	16	22	6	7	2	4	76	70	137	9	146
Lungs, disease	...	...	...	...	1	1	...	2	...	...	...	...	3	1	3	1	4
Lungs, emphysema	...	...	1	...	2	5	...	2	...	...	...	1	5	6	11	...	11
Lungs, oedema	...	...	...	1	...	1	...	1	1	...	...	...	3	1	4	...	4
Pharyngitis	...	...	1	...	1	...	1	...	...	...	...	...	...	3	3	...	3
Pleuritis	1	1	4	1	2	...	3	4	1	...	...	2	13	6	18	1	19
Pneumonitis	45	77	141	203	170	186	228	98	41	48	26	27	706	584	1,220	70	1,290
Pneumonitis, broncho	...	...	...	2	2	1	4	...	...	...	...	...	4	5	9	...	9
Pneumonitis, Catarrhal	...	...	...	3	1	1	2	...	...	...	...	...	5	2	7	...	7
Pneumonitis, Pleuro	...	...	1	2	2	...	1	3	2	1	1	...	5	8	13	...	13
Pneumonitis, Typho	4	7	5	5	9	9	13	4	5	1	1	...	35	28	61	2	63
Total	100	130	208	309	272	275	328	168	80	83	43	52	1,113	935	1,944	104	2,048

FOUR—DIGESTIVE.																	
Bowels, Catarrh	1	4	1	1	2	...	1	...	...	...	...	...	2	8	10	...	10
Bowels, Congestion	5	5	5	5	2	3	4	2	1	11	1	6	29	21	48	2	50
Bowels, Disease	...	...	...	...	...	...	2	...	...	...	...	...	2	...	2	...	2
Bowels, Hemorrhage	1	1	2	...	3	1	1	...	...	1	2	...	6	6	12	...	12
Bowels, Obstruction	3	5	5	6	3	1	2	5	5	2	3	2	21	21	41	1	42
Bowels, Paralysis	1	...	...	2	...	...	...	...	...	...	...	...	3	...	3	...	3
Bowels, Ulceration	2	2	...	...	...	1	...	...	...	1	...	2	5	3	6	2	8
Colic	...	2	...	...	1	...	...	1	...	4	4	3	9	6	15	...	15
Colitis	3	...	...	...	1	1	1	...	2	...	...	...	5	3	8	...	8
Dyspepsia	2	...	2	3	1	2	3	1	1	1	1	1	13	5	18	...	18
Enteritis	32	21	11	15	14	4	16	17	19	30	25	20	120	104	216	8	224
Gall Stones	2	2	...	...	...	...	1	...	...	...	...	...	3	2	5	...	5
Gastritis	15	10	8	14	6	3	18	11	10	20	8	9	70	62	129	3	132
Gastro-Enteritis	5	1	2	6	1	2	4	2	...	6	5	5	24	15	37	2	39
Haematemesis	1	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	1
Hepatitis	2	7	4	3	5	2	5	3	1	7	6	6	23	28	50	1	51
Hernia	2	2	2	6	3	3	2	3	...	3	3	1	18	12	29	1	30
Intestinal Perforation	...	...	...	...	2	...	...	...	...	...	...	...	1	1	2	...	2
Intussusception	2	...	1	1	5	1	3	2	2	2	2	5	16	10	25	1	26
Jaundice	1	1	3	2	3	1	...	2	1	3	3	6	11	15	26	...	26
Liver, Abscess	3	...	...	3	1	1	1	5	1	1	2	1	10	9	19	...	19
Liver, Atrophy	...	...	...	3	...	...	2	...	...	...	...	...	3	2	5	...	5
Liver, Cirrhosis	...	...	...	3	2	7	4	4	2	2	4	3	25	6	31	...	31
Liver, Congestion	2	...	...	1	...	4	1	3	...	...	...	...	9	2	11	...	11
Liver, disease	5	4	1	4	2	2	1	1	3	4	2	2	18	13	31	...	31
Liver, hypertrophy	...	...	...	...	1	...	1	...	1	...	...	...	1	2	3	...	3
Oesophagus, stricture	...	1	...	...	...	1	...	...	...	1	...	...	2	1	3	...	3
Peritonitis	15	11	11	21	14	13	8	8	8	10	9	16	53	91	135	9	144
Splenitis	...	...	...	...	...	3	...	2	1	...	...	...	3	3	6	...	6
Stomach, catarrh	...	...	...	1	1	1	...	1	...	2	2	3	6	5	11	...	11
Stomach, congestion	5	1	4	1	2	4	5	3	1	13	14	7	27	33	59	1	60
Stomach, disease	5	4	1	...	...	...	...	...	1	...	...	...	6	5	11	...	11
Stomach, hemorrhage	...	...	...	1	1	...	...	...	...	...	...	...	2	...	2	...	2
Stomach, ulceration	2	1	1	2	4	3	1	2	...	2	2	1	10	11	20	1	21
Stomatitis	1	3	...	...	...	...	...	...	1	...	...	...	3	2	5	...	5
Throat disease	1	...	...	...	1	...	1	2	...	2	...	...	7	...	6	1	7
Tonsilitis	3	2	3	...	1	1	1	...	1	...	3	1	5	11	16	...	16
Typhlitis	...	...	2	...	1	1	1	1	...	1	1	1	8	1	9	...	9
Total	122	90	69	104	83	66	90	81	62	129	102	101	579	520	1,066	33	1,099

TABLE B—Continued.

CLASS THREE—LOCAL DISEASES.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Male.	Female.	White.	Colored.	Total.
ORDER FIVE—URINARY.																	
Albuminurea	...	2	1	2	4	2	4	2	3	4	5	1	14	16	29	1	30
Calculus	...	...	...	...	...	...	...	...	...	...	2	1	1	2	3	....	3
Cystitis	...	2	4	6	2	2	6	4	5	3	4	7	38	7	45	....	45
Diabetes	3	3	5	7	4	6	6	1	2	2	2	5	35	11	46	....	46
Hæmaturia	1	...	...	...	...	...	1	...	1	1	1	...	3	2	5	....	5
Hodgkin's disease	...	...	1	...	...	...	...	...	1	...	...	...	2	....	2	....	2
Kidney disease	4	1	2	2	1	2	...	1	1	4	...	3	16	5	21	....	21
Nephria	15	9	18	11	10	7	19	6	7	19	8	11	82	58	139	1	140
Nephritis	4	1	7	2	1	6	9	3	6	5	1	1	29	17	45	1	46
Prostatitis	...	1	1	2	1	...	...	...	...	...	...	...	5	....	5	....	5
Renal calculi	...	...	...	1	...	1	...	...	...	...	1	...	2	1	3	....	3
Uræmia	3	3	2	8	4	3	8	6	5	3	4	3	36	16	51	1	52
Urethra, stricture of	...	1	...	...	...	...	...	...	...	1	...	...	2	....	2	....	2
Urine, suppression of	...	1	1	...	...	...	1	1	...	...	1	...	4	1	5	....	5
Total	30	24	42	41	27	29	54	24	31	42	29	32	269	136	401	4	405
ORDER SIX—GENERATIVE.																	
Metritis	1	1	...	...	1	3	4	3	...	...	1	1	....	15	13	2	15
Orchitis	...	2	...	...	...	...	...	...	...	...	...	...	2	....	2	....	2
Spermatorrhœa	...	...	...	...	1	...	...	...	...	...	...	...	1	....	1	....	1
Tumor, ovarian	...	1	1	2	...	1	...	...	2	...	...	...	....	7	7	....	7
Tumor, uterus	1	1	1	...	...	...	...	...	...	...	...	...	....	3	3	....	3
Total	2	5	2	2	2	4	4	3	2	...	1	1	3	25	26	2	28
ORDER SEVEN—LOCOMOTORY.																	
Necrosis of tibia	...	...	...	...	1	...	...	...	...	...	...	...	1	....	1	....	1
Total	...	...	...	...	1	...	...	...	...	...	...	...	1	....	1	....	1
ORDER EIGHT—INTEGUMENTARY.																	
Abscess	4	4	1	2	3	4	3	4	...	2	3	9	17	22	37	2	39
Total	4	4	1	2	3	4	3	4	...	2	3	9	17	22	37	2	39

ORDER NINE—MISCELLANEOUS.																	
Adenitis	...	...	...	1	...	1	1	...	...	...	...	...	3	...	3	...	3
Antrim, inflam	...	...	...	1	...	...	...	...	...	...	...	...	1	...	1	...	1
Cellulitis	...	...	...	2	1	...	...	...	...	2	...	...	2	3	5	...	5
Otitis media	...	...	...	...	1	...	1	...	...	1	...	...	1	2	3	...	3
Tumor	1	...	4	...	3	3	...	1	1	1	4	2	8	12	19	1	20
Total	1	...	4	4	5	4	2	1	1	4	4	2	15	17	31	1	32
Total local diseases	472	428	523	704	592	611	755	499	377	543	399	377	3,392	2,888	6,031	249	6,280

TABLE B—Continued.

CLASS FOUR—DEVELOPMENTAL DISEASES.	Oct.	Nov	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sep.	Male.	Female.	White.	Colored.	Total.
ORDER ONE—CHILDREN.																	
Atelectasis	1	...	...	3	3	2	1	4	1	1	2	...	9	9	18	....	18
Birth, injuries	3	1	2	1	1	2	1	3	2	2	4	3	13	12	25	....	25
Birth, premature	13	5	11	24	23	19	21	23	12	19	19	10	121	78	194	5	199
Cyanosis	5	4	6	11	8	9	5	3	3	7	4	2	38	29	63	4	67
Dentition	...	...	...	...	...	1	...	...	...	1	3	...	4	1	5	....	5
Hem. umbilical	...	...	...	...	...	1	...	...	...	...	1	...	2	....	2	....	2
Malformation	...	4	...	1	...	2	...	1	1	2	3	...	8	6	14	....	14
Malnutrition	...	...	2	...	1	1	1	...	1	...	1	1	7	1	8	....	8
Prolapsus funis	...	...	1	...	...	...	...	...	...	..	...	...	....	1	1	....	1
Total	22	14	22	40	36	37	29	34	20	32	37	16	202	137	330	9	339
ORDER TWO—WOMEN.																	
Amenorrhœa	...	...	...	...	...	1	...	...	...	...	...	...	....	1	1	....	1
Climacteria	...	...	1	1	...	...	1	...	...	1	...	1	....	5	5	....	5
Parturition	4	4	...	3	6	3	5	4	2	8	2	2	....	43	40	3	43
Phlegmatia dolens	...	...	...	...	...	...	...	...	...	1	...	...	....	1	1	....	1
Placenta previa	2	...	...	1	...	...	2	1	...	1	...	...	....	7	7	....	7
Post partum hem	2	1	...	...	...	...	2	1	...	...	1	3	....	10	10	....	10
Puerperal eclampsia	1	2	...	2	6	2	5	5	3	3	4	1	....	34	33	1	34
Uteurine hem	...	...	1	2	1	2	2	2	1	1	2	...	....	14	14	....	14
Uterus, disease	2	2	..	1	1	4	2	...	1	1	...	1	....	15	15	....	15
Total	11	9	2	10	14	12	19	13	7	16	9	8	....	130	126	4	130
ORDER THREE—OLD AGE.																	
Old age	30	24	28	31	20	28	47	24	20	39	28	27	158	188	341	5	346

ORDER FOUR—NUTRITION.																	
Asthenia	...	1	...	...	...	...	...	1	...	...	3	..	2	3	5	....	5
Debility	18	18	8	10	15	9	21	14	13	17	14	22	92	87	177	2	179
Exhaustion	1	...	2	9	5	3	9	6	10	8	7	7	35	32	67	....	67
Marasmus	9	2	9	6	3	3	3	10	1	16	20	13	40	55	88	7	95
Total	28	21	19	25	23	15	33	31	24	41	44	42	169	177	337	9	346
Total developmental	91	68	71	106	93	92	128	102	71	128	118	93	529	632	1,134	27	1,161

TABLE B.—Continued.

CLASS FIVE—VIOLENCE.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept	Male.	Female.	White.	Co'ored.	Total.
Order One—Accidents and Negligence.																	
Accident	38	28	24	25	15	19	22	19	27	32	37	32	252	66	312	6	318
Accident, railroad	15	4	7	7	6	4	12	13	4	9	8	7	92	4	94	2	96
Boiler explosion	3	...	1	3	1	...	...	...	...	...	...	...	8	...	8	...	8
Burn	7	7	6	6	8	4	6	...	1	2	2	4	23	30	51	2	53
Drowning	1	1	1	...	...	2	6	10	8	13	2	1	42	3	41	4	45
Insolation	...	...	...	...	...	...	1	...	1	15	8	2	19	8	27	...	27
Lightning	...	...	...	...	...	...	...	3	4	2	2	...	11	...	11	...	11
Poison	3	...	...	1	3	1	3	1	...	5	1	3	13	8	21	...	21
Shooting	3	2	3	2	...	4	1	3	3	1	6	4	26	6	31	1	32
Total	70	42	42	44	33	34	51	49	48	79	66	53	486	125	596	15	611
Order Three—Homicide.																	
Homicide	5	4	2	3	2	...	...	1	1	8	1	4	26	5	28	3	31
Total	5	4	2	3	2	...	...	1	1	8	1	4	26	5	28	3	31
Order Four—Suicide.																	
Drowning	1	...	...	1	...	...	...	1	...	...	...	...	2	1	3	...	3
Hanging	...	1	1	2	1	2	4	1	2	...	1	1	12	4	16	...	16
Poison	...	...	3	1	...	2	...	1	...	3	3	1	4	10	13	1	14
Shooting	4	3	1	1	...	...	1	...	...	2	1	...	13	...	10	3	13
Suicide	4	5	6	2	3	3	11	7	7	7	8	10	51	22	70	3	73
Total	9	9	11	7	4	7	16	10	9	12	13	12	82	37	112	7	119
Total violence	84	55	55	54	39	41	67	60	58	99	80	69	594	167	736	25	761
Unknown	40	29	25	39	30	33	43	19	25	36	46	41	222	184	389	17	406
Total unknown	40	29	25	39	30	33	43	19	25	36	46	41	222	184	389	17	406

RECAPITULATION.																	
Zymotic diseases	568	406	308	278	244	246	361	249	224	647	621	562	2,384	2,330	4,572	142	4,714
Constitutional diseases	243	204	217	235	239	229	336	242	242	261	208	203	1,247	1,612	2,676	183	2,859
Local diseases	472	428	523	704	592	611	755	499	377	543	399	377	3,392	2,888	6,031	249	6,280
Developmental diseases	91	68	71	106	93	92	128	102	71	128	118	93	529	632	1,134	27	1,161
Violence, accident and negligence	84	55	55	54	39	41	67	60	58	99	80	69	594	167	736	25	769
Unknown	40	29	25	39	30	33	43	19	25	36	46	41	222	184	389	17	401
Grand total	1,498	1,190	1,199	1,416	1,237	1,252	1,690	1,171	997	1,714	1,472	1 345	8,368	7,813	15,538	643	16,181

TABLE C.

CAUSES OF DEATH.

Nationality and Social Relations, Year Ending September 30, 1887.

CLASS ONE.—ZYMOTIC DISEASES.	TOTAL.		NATIONALITY.						SOCIAL RELATIONS.								
			American.		Foreign.		Not Reported.		Single.		Married.		Widowers.	Widows.	Not Reported.		Totals.
	Males.	Females.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			M.	F.	
ORDER ONE—MIASMATIC.																	
Anthrax	6	4	5	4	1	...	...	...	1	...	4	3	1	1	...	...	10
Chill, congestive	14	17	13	14	...	1	1	2	9	7	5	7	...	3	...	...	31
Cholera infantum	396	362	396	361	...	1	...	...	396	362	...	...	...	...	...	...	758
Cholera morbus	16	17	12	12	4	4	...	1	4	7	8	6	4	3	...	1	33
Croup	172	155	168	150	4	4	...	1	172	155	...	...	...	...	...	...	327
Diarrhoea	85	47	73	45	11	1	1	1	45	31	30	7	9	9	1	...	132
Diphtheria	231	294	229	288	2	4	...	2	230	287	...	7	...	...	1	...	525
Dysentery	149	136	139	123	9	13	1	...	93	67	38	38	13	29	5	2	285
Entero-colitis	47	49	47	49	..	...	...	...	43	49	2	...	2	...	...	...	96
Erysipelas	40	30	34	27	5	3	1	...	17	15	15	7	7	6	1	2	70
Fever, catarrhal	25	12	21	11	2	...	2	1	20	7	3	2	1	1	1	2	37
Fever, cerebro spinal	81	69	78	65	1	2	2	2	63	61	14	5	1	1	3	2	150

Fever, congestive	6	10	6	9	...	1	...	...	3	2	1	6	...	2	2	...	16
Fever, continued	4	5	3	4	1	1	...	...	1	3	2	...	...	1	1	1	9
Fever, intermittent	3	6	2	5	1	1	...	...	1	2	1	2	1	1	...	1	9
Fever, malarial	55	75	46	73	7	2	2	...	31	34	22	33	1	7	1	1	130
Fever, pernicious	5	5	5	5	...	...	...	...	3	4	2	...	...	1	...	...	10
Fever, puerperal	...	74	...	60	...	12	...	2	...	6	...	68	...	...	...	...	74
Fever, remittent	7	17	7	16	...	1	...	...	6	10	1	5	...	2	...	...	24
Fever, rheumatic	2	4	1	4	1	...	...	...	...	4	2	...	...	...	...	...	6
Fever, scarlet	99	79	95	79	3	...	1	...	97	78	1	1	1	...	...	...	178
Fever, typhoid	388	332	354	305	28	25	6	2	220	168	135	138	18	18	15	8	720
Fever, typhoid malarial	70	64	66	61	1	3	3	...	46	36	16	23	8	4	...	1	134
Gangrene	13	17	9	11	4	6	...	...	2	3	9	7	2	7	...	...	30
Measles	133	126	123	121	8	4	2	1	117	99	13	23	1	2	1	1	259
Peritonitis puerperal	...	16	...	15	...	1	...	...	...	8	...	8	...	...	...	...	16
Pertussis	67	84	66	83	...	1	1	...	67	83	...	1	...	...	...	...	151
Pyæmia	58	61	47	50	10	7	1	4	27	15	26	38	4	4	1	4	119
Septæmia puerperal	...	14	...	13	...	1	...	...	...	2	...	12	...	...	...	...	14
Small-pox	...	2	...	2	...	...	...	...	...	1	...	1	...	...	...	...	2
Worms	...	1	...	1	...	...	...	...	...	1	...	...	...	...	...	...	1
Total	2,172	2,184	2,045	2,066	103	99	24	19	1,715	1,608	350	448	74	102	33	26	4,356
ORDER TWO—ENTHETIC.																	
Syphilis, acquired	9	6	7	6	2	...	...	...	7	1	1	5	...	...	1	...	15
Syphilis, congenital	7	7	7	7	...	...	...	...	7	7	...	...	...	...	...	...	14
Total	16	13	14	13	2	...	...	...	14	8	1	5	...	...	1	...	29
ORDER THREE—DIETIC.																	
Delirium Tremens	6	...	5	...	1	...	...	...	1	...	3	...	2	...	...	...	6
Eczema	3	3	3	3	...	...	...	...	3	3	...	...	...	...	...	...	6
Inanition	147	117	147	114	...	2	...	1	142	103	4	8	1	6	...	...	264
Intemperance	31	3	21	1	7	2	3	...	6	...	17	2	5	1	3	...	34
Purpura	6	9	6	9	...	...	...	...	5	6	1	2	...	1	...	...	15
Total	193	132	182	127	8	4	3	1	157	112	25	12	8	8	3	...	325
ORDER FOUR—PARASITIC.																	
Aphtha	3	1	3	1	...	...	...	...	3	1	...	...	...	...	...	...	4
Total	3	1	3	1	...	...	...	...	3	1	...	...	...	...	...	...	4
Total Zymotic Diseases	2,384	2,330	2,244	2,207	113	103	27	20	1,889	1,729	376	465	82	110	37	26	4,714

TABLE C—Continued.

CLASS TWO—CONSTITUTIONAL.	TOTAL.		NATIONALITY.						SOCIAL RELATIONS.								
	Males.	Females.	American.		Foreign.		Not Reported.		Single.		Married.		Widowers.	Widows.	Not Reported.		Total.
			M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			M.	F.	
ORDER ONE—DIATHETIC.																	
Anæmia	11	17	10	16	1	1	...	...	4	8	7	7	...	2	...	...	28
Cancer	97	209	74	167	21	34	2	8	13	21	69	101	11	73	4	14	306
Dropsy	93	102	68	80	19	20	6	2	20	30	50	42	18	23	5	7	195
Goitre	...	1	...	1	...	...	...	...	...	1	...	...	...	...	...	...	1
Leucocythæmia	1	5	1	5	...	...	...	...	1	5	...	...	...	...	...	...	6
Lupus	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	1	1
Lymphadenoma	1	1	1	1	...	...	...	...	1	...	...	1	...	...	...	...	2
Rheumatism	43	31	38	28	5	2	...	1	17	12	20	11	6	7	...	1	74
Total	246	367	192	299	46	57	8	11	56	77	146	162	35	105	9	23	613
ORDER TWO—TUBERCULAR.																	
Abscess, psoas	1	3	1	3	...	...	...	...	...	1	1	1	...	1	...	...	4
Hydrocephalus	19	18	19	17	...	1	...	...	19	18	...	...	...	...	...	...	37
Meningitis, tubercular	34	25	34	25	...	...	...	...	34	24	...	1	...	...	...	...	59
Morbus, coxarius	2	1	2	1	...	...	...	...	2	1	...	...	...	...	...	...	3
Phthisis	907	1,165	762	1,049	102	81	43	35	405	410	389	578	76	145	37	32	2,072
Scrofula	24	17	24	15	...	2	...	...	20	12	4	3	...	2	...	...	41
Tabes, mesenterica	14	16	14	15	...	1	...	...	11	7	2	8	1	1	...	...	30
Total	1,001	1,245	856	1,125	102	85	43	35	491	473	396	591	77	149	37	32	2,246
Total Constitutional Diseases	1,247	1,612	1,048	1,424	148	142	51	46	547	550	542	753	112	254	46	55	2,859

TABLE C—Continued.

CLASS THREE—LOCAL DISEASES.	TOTAL.		NATIONALITY.						SOCIAL RELATIONS.								
	Males.	Females.	American.		Foreign.		Not Reported.		Sing'e.		Married.		Widowers.	Widows.	Not Reported.		Total.
			M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			M.	F.	
ORDER ONE—NERVOUS SYSTEM.																	
Apoplexy	124	105	100	86	23	19	1	. . .	23	17	77	42	20	43	4	3	229
Brain, abscess.	7	5	7	5	. . .	. . .	. . .	. . .	5	3	1	2	1	. . .	. . .	. . .	12
Brain, congestion.	120	105	112	99	6	4	2	2	93	76	18	17	6	10	3	2	225
Brain, disease.	16	17	14	15	2	2	. . .	. . .	10	10	4	3	1	4	1	. . .	33
Brain, effusion	2	. . .	1	. . .	1	. . .	. . .	. . .	1	. . .	. . .	. . .	. . .	. . .	1	. . .	2
Brain fever	33	33	31	33	2	. . .	. . .	. . .	27	26	5	5	. . .	1	1	1	66
Brain, softening	28	21	23	17	5	3	. . .	1	8	4	17	6	3	11	. . .	. . .	49
Cerebritis	69	59	66	55	3	3	. . .	1	51	47	14	10	2	2	2	. . .	128
Chorea.	1	4	1	4	. . .	. . .	. . .	. . .	1	3	. . .	1	. . .	. . .	. . .	. . .	5
Convulsions.	143	134	136	131	6	3	1	. . .	140	130	1	3	1	1	1	. . .	277
Epilepsy.	16	18	13	14	2	4	1	. . .	15	12	1	5	. . .	1	. . .	. . .	34
Locomotor Ataxia	3	. . .	3	. . .	. . .	. . .	. . .	. . .	1	. . .	2	. . .	. . .	. . .	. . .	. . .	3
Meningitis	160	115	149	111	9	3	2	1	139	108	16	6	3	. . .	2	1	275
Meningitis, cerebral	24	27	23	24	. . .	1	1	2	21	25	2	. . .	. . .	1	1	1	51
Meningitis, spinal	17	24	15	24	2	. . .	. . .	. . .	15	22	1	1	1	1	. . .	. . .	41
Muscular atrophy.	. . .	1	. . .	1	. . .	. . .	. . .	. . .	. . .	1	. . .	. . .	. . .	. . .	. . .	. . .	1
Myelitis	3	2	3	2	. . .	. . .	. . .	. . .	1	1	2	1	. . .	. . .	. . .	. . .	5
Nervous prostration	10	19	9	16	. . .	1	1	2	2	1	7	13	1	4	. . .	1	29
Neuralgia	3	6	2	5	1	1	. . .	. . .	. . .	2	2	1	1	3	. . .	. . .	9
Neurasthenia	2	2	1	2	1	. . .	. . .	. . .	. . .	1	1	1	1	. . .	. . .	. . .	4
Paralysis	180	144	150	120	21	17	9	7	36	17	93	58	42	60	9	9	324
Rachitis.	3	4	3	4	. . .	. . .	. . .	. . .	3	4	. . .	. . .	. . .	. . .	. . .	. . .	7
Spina bifida.	12	6	12	6	. . .	. . .	. . .	. . .	12	6	. . .	. . .	. . .	. . .	. . .	. . .	18
Spinal schlerosis	2	2	2	2	. . .	. . .	. . .	. . .	1	2	. . .	. . .	1	. . .	. . .	. . .	4
Spine disease	13	8	13	8	. . .	. . .	. . .	. . .	8	6	5	1	. . .	1	. . .	. . .	21
Tetanus	15	12	13	12	2	. . .	. . .	. . .	12	12	2	. . .	1	. . .	. . .	. . .	27
Total	1,016	863	912	786	86	61	18	16	635	526	271	176	85	143	25	18	1,879

TABLE C—Continued.

CLASS THREE—LOCAL DISEASES.	TOTAL.		NATIONALITY.						SOCIAL RELATIONS.								
	Males.	Females.	American.		Foreign.		Not Reported.		Single.		Married.		Widowers.	Widows.	Not Reported.		Total.
			M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			M.	F.	
ORDER TWO—CIRCULATORY.																	
Aneurism	5	1	3	1	2	...	...	...	...	1	5	...	...	...	...	...	6
Congestion	8	11	8	10	...	1	...	...	6	4	1	6	1	1	...	...	19
Embolism	1	6	...	5	1	1	...	...	...	1	1	4	..	1	...	...	7
Epistaxis	1	3	1	1	...	1	...	1	1	2	...	...	..	1	...	...	4
Heart disease	357	344	295	284	43	44	19	16	88	75	204	164	48	84	17	21	701
Hemorrhage	5	3	5	2	...	1	...	...	3	2	1	...	...	1	1	..	8
Phlebitis	1	2	1	1	...	1	...	...	..	...	1	2	...	...	...	..	3
Syncope	1	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	1
Total	379	370	314	304	46	49	19	17	98	85	214	176	49	88	18	21	749
ORDER THREE—RESPIRATORY.																	
Asthma	21	21	12	14	8	7	1	..	4	1	10	10	7	9	...	1	42
Bronchitis	170	156	146	143	18	8	6	5	107	100	40	38	18	17	5	1	326
Catarrh	4	4	4	3	...	...	...	1	1	1	2	2	...	1	1	..	8
Glottis Oedema	...	2	...	2	...	...	...	...	...	1	...	1	...	...	...	...	2
Haemoptysis	22	13	17	10	4	3	1	...	7	2	14	6	1	5	...	...	35
Hydrothorax	5	2	3	1	1	1	1	...	1	...	3	1	1	...	1	...	7
Influenza	1	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	1
Laryngitis	16	20	15	18	...	2	1	...	11	18	5	...	...	2	...	...	36
Lungs, abscess	19	3	18	3	...	...	1	...	12	2	6	1	...	..	1	..	22
Lungs, congestion	76	70	70	63	6	5	...	2	54	47	15	18	6	4	1	1	146
Lungs, disease	3	1	3	1	...	...	...	...	1	...	2	1	...	...	...	...	4
Lungs, emphysema	5	6	3	6	2	...	...	...	1	1	3	2	1	2	..	1	11
Lungs, oedema	3	1	3	1	...	...	...	...	1	...	2	1	...	...	...	...	4
Pharyngitis	...	3	...	3	...	...	...	...	...	3	...	...	...	...	...	...	3
Pleuritis	13	6	12	6	..	1	...	...	4	2	9	4	...	...	...	...	19
Pneumonitis	706	584	623	504	67	55	16	25	384	282	248	177	49	113	25	12	1,290
Pneumonitis, broncho-	4	5	4	5	..	...	...	..	3	4	...	...	1	1	...	...	9
Pneumonitis, catarrhal	5	2	5	2	...	...	...	...	4	1	1	...	...	..	...	1	7
Pneumonitis, pleuro-	5	8	3	6	1	1	1	1	4	1	1	4	3	..	...	...	13
Pneumonitis, typho-	35	28	32	27	2	1	1	...	11	15	22	12	2	1	...	...	63
Total	1,113	935	975	817	109	84	29	34	607	485	383	278	89	155	34	17	2,048

Order Four—Digestive—																	
Bowels, catarrh	2	8	1	8	1	...	...	...	...	6	2	...	...	2	...	...	10
Bowels, congestion	29	21	26	21	3	...	...	...	17	13	12	4	...	4	...	...	50
Bowels, disease	2	...	2	...	...	...	...	...	1	...	1	...	...	...	...	...	2
Bowels, hemorrhage	6	6	5	6	1	...	...	...	2	6	3	...	1	...	...	...	12
Bowels, obstruction	21	21	18	18	3	1	...	2	15	7	5	6	1	8	...	...	42
Bowels, paralysis	3	...	3	...	...	...	...	...	1	...	1	...	1	...	...	...	3
Bowels, ulceration	5	3	4	3	1	...	...	...	1	1	4	2	...	...	...	...	8
Colic	9	6	8	6	1	...	...	...	6	3	2	2	1	1	...	...	15
Colitis	5	3	5	3	...	...	...	...	4	2	...	...	1	1	...	...	8
Dyspepsia	13	5	13	5	...	...	...	...	7	2	5	1	1	2	...	...	18
Euteritis	120	104	105	94	13	8	2	2	84	67	26	26	7	9	3	2	224
Gall stones	3	2	3	2	...	...	...	...	...	...	3	2	...	...	...	...	5
Gastritis	70	62	56	59	11	3	3	...	29	25	27	26	12	11	2	...	132
Gastro euteritis	24	15	22	14	2	1	...	...	15	2	8	4	1	2	...	...	39
Haematemesis	...	1	...	1	...	...	...	...	...	...	...	...	...	1	...	...	1
Hepatitis	23	28	21	23	1	5	1	...	11	10	6	8	5	9	1	1	51
Hernia	18	12	16	7	2	3	...	2	7	...	7	11	4	1	...	...	30
Intestinal perforation	1	1	1	1	...	...	...	...	1	...	...	...	...	1	...	...	2
Intussusception	16	10	16	7	...	3	...	...	11	5	5	1	...	3	...	1	26
Jaundice	11	15	10	13	...	2	1	...	6	5	3	4	1	5	1	1	26
Liver, abscess	10	9	6	9	4	...	...	...	1	3	9	3	...	3	...	...	19
Liver, atrophy	3	2	2	2	1	...	...	...	2	1	1	...	...	1	...	...	5
Liver, cirrhosis	25	6	19	4	4	1	2	1	4	...	18	2	3	4	...	...	31
Liver, congestion	9	2	8	1	...	1	1	...	5	...	4	2	...	...	...	...	11
Liver, disease	18	13	13	12	5	1	...	...	6	...	10	8	1	4	1	1	31
Liver, hypertrophy	1	2	1	1	...	1	...	...	...	1	1	...	...	1	...	...	3
Oesophagus stricture	2	1	1	1	1	...	...	...	1	...	1	1	...	...	...	...	3
Peritonitis	53	91	41	83	10	8	2	...	31	43	20	40	1	6	1	2	144
Splenitis	3	3	3	3	...	...	...	...	1	2	2	1	...	...	...	...	6
Stomach, catarrh	6	5	6	5	...	...	...	...	4	3	1	2	1	...	...	...	11
Stomach, congestion	27	33	23	31	4	1	...	1	11	16	14	11	1	6	1	...	60
Stomach, disease	6	5	6	5	...	...	...	...	3	2	2	1	1	2	...	...	11
Stomach, hemorrhage	2	...	1	...	...	...	1	...	1	...	1	...	...	...	...	...	2
Stomach ulceration	10	11	7	10	2	1	1	...	3	2	7	6	...	2	...	1	21
Stomatitis	3	2	3	2	...	...	...	...	3	2	...	...	...	...	...	...	5
Throat disease	7	...	...	...	7	...	...	...	6	...	1	...	...	...	...	...	7
Tonsilitis	5	11	5	11	...	...	...	...	5	11	...	...	...	...	...	...	16
Typhilitis	8	1	7	1	...	...	1	...	2	1	5	...	1	...	...	...	9
Total	579	520	487	472	77	40	15	18	307	248	217	174	45	89	10	9	1,099
Order Five—Urinary.																	
Albuminurea	14	16	12	16	2	...	...	...	1	2	8	9	5	4	...	1	30
Calculus	1	2	1	2	...	...	...	...	1	...	...	2	...	...	...	...	3
Cystitis	38	7	32	7	5	...	1	...	8	1	20	5	9	1	1	...	45
Diabetes	35	11	31	9	3	2	1	...	9	3	18	5	6	3	2	...	46
Hæmaturia	3	2	2	2	1	...	...	...	...	...	...	2	3	...	...	...	5

TABLE C—Continued.

CLASS THREE—LOCAL DISEASES.	TOTAL.		NATIONALITY.						SOCIAL RELATIONS.								
	Males.	Females.	American. M.	American. F.	Foreign. M.	Foreign. F.	Not Reported. M.	Not Reported. F.	Single. M.	Single. F.	Married. M.	Married. F.	Widowers.	Widows.	Not Reported. M.	Not Reported. F.	Total.
ORDER FIVE—URINARY—Continued.																	
Hodgkin's disease	2	...	2	...	...	...	...	...	...	...	1	...	1	...	...	...	2
Kidney disease	16	5	15	4	...	1	1	...	3	2	9	2	4	1	...	...	21
Nephria	82	58	58	53	18	5	6	...	10	14	58	29	9	13	5	2	140
Nephritis	29	17	26	16	3	1	...	...	9	4	15	10	4	3	1	...	46
Prostatitis	5	...	3	...	2	...	...	...	...	...	4	...	...	...	1	...	5
Renal calculi	2	1	2	1	...	...	...	...	1	...	...	1	1	...	...	...	3
Uræmia	36	16	30	14	4	2	2	...	6	4	18	10	10	2	2	...	52
Urethra, stricture of	2	...	2	...	...	...	...	...	1	...	...	...	1	...	...	...	2
Urine, suppression of	4	1	4	1	...	...	...	...	1	...	2	1	1	...	...	...	5
Total	269	136	220	125	38	11	11	...	50	30	153	76	54	27	12	3	405
ORDER SIX—GENERATIVE.																	
Metritis	...	15	...	13	...	2	...	...	...	2	...	12	...	1	...	...	15
Orchitis	2	...	...	...	1	...	1	...	...	...	2	...	...	...	...	...	2
Tumor, ovarian	...	7	...	7	...	...	...	...	...	2	...	1	...	4	...	...	7
Tumor, uterus	...	3	...	3	...	...	...	...	...	...	...	2	...	1	...	...	3
Spermatorrhœa	1	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	1
Total	3	25	1	23	1	2	1	...	1	4	2	15	...	6	...	...	28
ORDER SEVEN—LOCOMOTORY.																	
Necrosis of Tibia	1	...	1	...	...	...	...	...	...		1	...	...	...	...	...	1
Total	1	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	1

Order Eight—Integumentary.																	
Abscess	17	22	15	19	2	2	...	1	10	10	6	8	...	3	1	1	39
Total	17	22	15	19	2	2	...	1	10	10	6	8	...	3	1	1	39
Order Nine—Miscellaneous.																	
Adenitis	3	...	3	...	...	...	...	...	3	...		...	...	...	...	...	3
Antrim, inflam	1	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	1
Cellulitis	2	3	2	3	...	...	...	...	1	...	..	3	1	...	...	...	5
Otitis Media	1	2	1	2	...	..	...	...	1	2	...	...	...	...	...	...	3
Tumor	8	12	4	10	2	1	2	1	1	...	5	8	1	4	1	...	20
Total	15	17	11	15	2	1	2	1	7	2	5	11	2	4	1	...	32
Total Local Diseases	3,392	2,888	2,936	2,561	361	250	95	77	1,715	1,390	1,252	914	324	515	101	69	6,280

TABLE C—Continued.

CLASS FOUR—DEVELOPMENTAL DISEASES.	TOTAL.		NATIONALITY.						SOCIAL RELATIONS.								
	Males.	Females.	American.		Foreign.		Not Reported.		Single.		Married.		Widowers.	Widows.	Not Reported.		Total.
			M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			M.	F.	
ORDER ONE—CHILDREN.																	
Atelectasis	9	9	9	9	...	...	...	...	9	9	...	...	...	...	...	...	18
Birth Injuries	13	12	13	12	...	...	...	...	13	12	...	...	...	...	...	...	25
Births, Premature	121	78	121	78	...	...	...	...	121	78	...	...	...	...	...	...	199
Cyanosis	38	29	38	28	...	1	...	...	38	29	...	...	...	...	...	...	67
Dentition	4	1	4	1	...	...	...	...	4	1	...	...	...	...	...	...	5
Hemorrhage, umbilical	2	...	2	...	...	...	...	...	2	...	...	...	...	...	...	...	2
Malformation	8	6	8	6	...	...	...	...	8	6	...	...	...	...	...	...	14
Malnutrition	7	1	7	1	...	...	...	...	7	1	...	...	...	...	...	...	8
Prolapsus funis	...	1	...	1	...	...	...	...	...	1	...	...	...	...	...	...	1
Total	202	137	202	136	...	1	...	...	202	137	...	...	...	...	...	...	339
ORDER TWO—WOMEN.																	
Amenorrhoea	...	1	...	1	...	...	...	...	...	1	...	...	...	...	...	...	1
Climacteria	...	5	...	5	...	...	...	...	...	...	...	4	...	1	...	...	5
Parturition	...	43	...	37	...	3	...	3	...	2	...	40	...	...	...	1	43
Phlegmatia dolens	...	1	...	1	...	...	...	...	...	...	...	1	...	...	...	...	1
Placenta previa	...	7	...	7	...	...	...	...	...	...	...	7	...	...	...	...	7
Post partum hem	...	10	...	8	...	2	...	...	...	...	...	10	...	...	...	...	10
Puerperal eclampsia	...	34	...	33	...	1	...	...	...	6	...	27	...	1	...	...	34
Uterine hem	...	14	...	12	...	2	...	...	...	...	...	12	...	2	...	...	14
Uterus disease	...	15	...	13	...	2	...	...	...	3	...	12	...	...	...	...	15
Total	...	130	...	117	...	10	...	3	...	12	...	113	...	4	...	1	130
ORDER THREE—OLD AGE.																	
Old age	158	188	111	129	39	56	8	3	5	8	71	29	73	143	9	8	346
Total	158	188	111	129	39	56	8	3	5	8	71	29	73	143	9	8	346

ORDER FOUR—NUTRITION.																	
Asthenia	2	3	1	2	1	. . .	. . .	1	. . .	2	1	1	1	. . .	. . .	. . .	5
Debility	92	87	76	70	14	17	2	. . .	40	25	21	15	26	41	5	6	179
Exhaustion	35	32	34	29	. . .	2	1	1	16	16	15	11	2	1	2	4	67
Marasmus	40	55	35	52	5	2	. . .	1	33	44	7	3	. .	8	. . .	. . .	95
Total	169	177	146	153	20	21	3	3	89	87	44	30	29	50	7	10	346
Total Developmental	529	632	459	535	59	88	11	9	296	244	115	172	102	197	16	19	1,161

TABLE C—Continued.

CLASS FIVE—VIOLENCE.	TOTAL.		NATIONALITY.						SOCIAL RELATIONS.								
	Males.	Females.	American.		Foreign.		Not Reported.		Single.		Married.		Widowers.	Widows.	Not Reported.		Totals.
			M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			M.	F.	
ORDER ONE—ACCIDENTS AND NEGLIGENCE.																	
Accident	252	66	200	62	35	4	17	...	127	39	93	20	17	7	15	...	318
Accident, R. R	92	4	68	3	8	1	16	...	34	2	41	1	5	1	12	...	96
Boiler explosion	8	...	7	...	...	...	1	...	4	...	4	...	...	...	...	...	8
Burn	23	30	19	28	4	2	...	...	19	24	4	4	...	2	...	...	53
Drowning	42	3	36	3	3	...	3	...	30	2	7	...	...	...	5	1	45
Insolation	19	8	13	8	5	...	1	...	7	4	11	3	1	...	...	1	27
Lightning	11	...	11	...	...	...	...	...	6	...	4	...	1	...	...	...	11
Poison	13	8	12	7	...	...	1	1	10	4	2	3	...	1	1	...	21
Shooting	26	6	26	6	...	...	...	...	16	1	8	4	1	1	1	...	32
Total	486	125	392	117	55	7	39	1	253	76	174	35	25	12	34	2	611
ORDER THREE—HOMICIDE.																	
Homicide	26	5	20	5	4	...	2	...	14	3	10	1	1	1	1	...	31
Total	26	5	20	5	4	...	2	...	14	3	10	1	1	1	1	...	31
ORDER FOUR—SUICIDE.																	
Drowning	2	1	2	...	...	1	...	...	...	...	1	...	...	1	1	...	3
Hanging	12	4	12	3	...	1	...	...	2	3	8	1	2	...	...	...	16
Poison	4	10	4	9	...	1	...	...	1	5	3	4	...	1	...	...	14
Shooting	13	...	10	...	2	...	1	...	7	...	6	...	...	...	...	...	13
Suicide	51	22	39	20	10	1	2	1	16	14	23	4	4	4	8	...	73
Total	82	37	67	32	12	4	3	1	26	22	41	9	6	6	9	...	119
Total Violence	594	167	479	154	71	11	44	2	293	101	225	45	32	19	44	2	761
Unknown	222	184	199	174	12	4	11	6	143	112	42	42	15	10	22	20	406
Total	222	184	199	174	12	4	11	6	143	112	42	42	15	10	22	20	406

RECAPITULATION.																		
Zymotic Diseases	2,384	2,330	2,244	2,207	113	103	27	20	1,889	1,729	376	465	82	110	37	26	4,714
Constitutional Diseases	1,247	1,612	1,048	1,424	148	142	51	46	547	550	542	753	112	254	46	55	2,859
Local Diseases	3,392	2 888	2,936	2,561	361	250	95	77	1,715	1,390	1,252	914	324	515	101	69	6,280
Developmental Diseases	529	632	459	535	59	88	11	9	296	244	115	172	102	197	16	19	1,161
Violence	594	167	479	154	71	11	44	2	293	101	225	45	32	19	44	2	761
Unknown	222	184	199	174	12	4	11	6	143	112	42	42	15	10	22	20	406
Total	8,368	7,813	7,635	7,055	764	598	239	160	4,833	4,126	2,552	2,391	667	1,105	266	191	16,181

TAB

Causes of Death, Showing Grouped Ages,

CLASS ONE—ZYMOTIC DISEASES.	Under 1		1 to 5.		5 to 10.		10 to 15.		15 to 20.		20 to 30.		30 to 40.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
ORDER ONE—MIASMATIC.														
Anthrax	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Chill, congestive	1	2	3	1	2	2	1	. .	1	1	. .	. .	1	1
Cholera infantum	312	270	81	86	2	6	1	. .	. .	. .	. .	. .	. .	. .
Cholera morbus	1	2	. .	2	1	1	. .	. .	1	1	. .	. .	1	2
Croup	36	28	106	97	29	29	. .	. .	. .	. .	1	. .	. .	1
Diarrhœa	18	22	19	7	. .	. .	1	1	. .	. .	1	. .	2	1
Diphtheria	25	25	118	136	62	87	16	32	7	7	1	1	. .	1
Dysentery	32	19	33	33	9	6	3	5	2	. .	6	3	6	6
Entero-colitis	28	33	18	11	. .	1	. .	. .	. .	. .	. .	1	. .	. .
Erysipelas	8	8	2	5	1	1	. .	. .	3	. .	2	2	1	2
Fever, catarrhal	12	3	7	4	. .	. .	. .	. .	. .	. .	. .	. .	1	. .
Fever, cerebro-spinal	16	12	20	24	10	14	4	3	7	6	5	2	3	3
Fever, congestive	2	. .	. .	1	. .	1	. .	. .	. .	. .	2	2	. .	. .
Fever, continued	. .	. .	1	1	. .	1	. .	1	. .	. .	. .	. .	. .	. .
Fever, intermittent	1	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	1	. .	. .
Fever, malarial	8	7	7	8	. .	6	5	8	4	3	7	16	1	6
Fever, pernicious	. .	. .	. .	1	. .	1	. .	. .	2	. .	1	. .	. .	. .
Fever, puerperal	. .	. .	. .	. .	. .	. .	. .	. .	. .	7	. .	41	. .	18
Fever, remittent	2	2	. .	4	. .	2	. .	1	1	1	1	2	2	. .
Fever, rheumatic	. .	. .	. .	. .	. .	1	. .	. .	. .	3	. .	. .	. .	. .
Fever, scarlet	19	13	47	36	22	23	7	3	1	3	1	1	. .	. .
Fever, typhoid	11	9	24	19	25	20	24	31	48	57	102	81	40	48
Fever, typho-malarial	4	3	13	1	7	8	5	2	12	9	4	12	5	6
Gangrene	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	1	2	. .	1
Measles	37	30	55	37	6	13	5	4	2	9	13	13	9	7
Peritonitis puerperal	. .	. .	. .	. .	. .	. .	. .	. .	. .	6	. .	5	. .	4
Pertussis	38	43	25	39	4	1	. .	. .	. .	. .	. .	. .	. .	. .
Pyæmia	2	4	4	4	1	1	1	. .	6	2	9	18	3	14
Septæmia puerperal	. .	. .	. .	. .	. .	. .	. .	. .	. .	2	. .	4	. .	8
Small-pox	. .	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	. .
Worms	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Total	614	536	583	558	181	225	73	93	97	117	157	207	75	129
ORDER TWO—ENTHETIC.														
Syphilis, acquired	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	4	1	2	2
Syphilis, congenital	6	6	1	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .
Total	6		1	. .	. .	1	. .	. .	. .	. .	4	1	2	2
ORDER THREE—DIETIC.														
Delirium tremens	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	. .	. .
Eczema	2	2	1	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Inanition	132	92	7	10	2	. .	. .	. .	. .	1	. .	1	. .	3
Intemperance	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	4	. .	3	1
Purpura	2	2	1	1	1	. .	1	1	. .	1	1	1	. .	. .
Total	136	96	9	12	3	. .	1	1	. .	2	6	2	3	4
ORDER FOUR—PARASITIC.														
Aphtha	2	. .	1	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Total	2	. .	1	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Total Zymotic Diseases	758	638	594	571	184	226	74	94	97	119	167	210	80	135

LE D.

year Ending September 30, 1887.

40 to 50.		50 to 60.		60 to 70.		70 to 80.		80 to 90.		90 to 100.		Over 100		Not Reptd.		Males.	Females.	Total.
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
. .	. .	2	1	1	2	1	. .	. .	. .	. .	. .	. .	. .	1	1	6	4	10
. .	2	. .	5	2	. .	1	2	2	1	. .	. .	. .	. .	. .	. .	14	17	31
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	396	362	758
2	3	1	. .	5	3	3	2	1	1	. .	. .	. .	. .	. .	. .	16	17	33
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	172	155	327
10	2	9	2	12	5	6	4	3	2	1	. .	. .	. .	3	1	85	47	132
. .	1	. .	1	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	2	2	231	294	525
6	6	8	9	12	23	16	15	9	8	1	3	. .	. .	6	. .	149	136	285
. .	. .	1	. .	. .	2	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	47	49	96
5	3	3	3	3	2	7	1	2	2	1	. .	. .	. .	2	1	40	30	70
.	1	1	. .	1	1	1	. .	1	1	. .	. .	. .	. .	1	2	25	12	37
8	1	2	1	. .	. .	1	2	. .	. .	. .	. .	. .	. .	5	1	81	69	150
1	1	. .	2	. .	1	. .	1	. .	. .	. .	. .	. .	. .	. .	2	6	10	16
. .	. .	. .	. .	1	. .	1	1	. .	. .	. .	. .	. .	. .	1	1	4	5	9
. .	1	1	1	. .	. .	. .	. .	. .	1	1	. .	. .	. .	. .	1	3	6	9
3	7	9	3	2	4	6	3	3	3	. .	. .	. .	. .	. .	1	55	75	130
1	2	. .	. .	. .	. .	1	. .	. .	1	. .	. .	. .	. .	. .	. .	5	5	10
. .	7	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. . . .	74	74
1	. .	.	2	. .	1	. .	1	. .	. .	. .	. .	. .	. .	. .	1	7	17	24
. .	. .	1	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	2	4	6
. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	99	79	178
38	23	27	17	21	14	13	6	3	1	1	. .	. .	. .	11	6	388	332	720
3	6	4	1	3	3	6	4	2	. .	. .	. .	. .	. .	2	. .	70	64	134
4	. .	3	4	1	2	3	4	1	2	. .	1	. .	. .	. .	. .	13	17	30
1	3	4	3	. .	4	. .	1	1	. .	. .	. .	. .	. .	. .	2	133	126	259
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. . . .	16	16
. .	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	67	84	151
6	4	12	2	6	3	5	3	1	1	. .	. .	. .	. .	2	5	58	61	119
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. . . .	14	14
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. . . .	2	2
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. . . .	1	1
89	74	89	58	70	79	72	51	29	24	5	4	. .	. .	38	29	2,172	2,184	4,356
. .	2	. .	1	2	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	9	6	15
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	7	7	14
. .	2	. .	1	2	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	16	13	29
1	. .	2	. .	1	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	6	. . . .	6
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	3	3	6
1	2	.	4	1	3	3	1	1	. .	. .	. .	. .	. .	. .	. .	147	117	264
8	. .	9	. .	4	. .	2	1	. .	. .	. .	. .	. .	. .	1	1	31	3	34
. .	. .	. .	. .	. .	1	. .	. .	. .	1	. .	. .	. .	. .	. .	1	6	9	15
10	2	11	4	6	4	6	2	1	1	. .	. .	. .	. .	1	2	193	132	325
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	3	1	4
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	3	1	4
99	78	100	63	78	83	79	53	30	25	5	4	. .	. .	39	31	2,384	2,330	4,714

TABLE D—

CLASS TWO—CONSTITUTIONAL.	Under 1.		1 to 5.		5 to 10.		10 to 15.		15 to 20.		20 to 30.		30 to 40.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
ORDER ONE—DIATHETIC.														
Anæmia	1	2	2	3	1	..	..	1	..	..	1	2	..	3
Cancer	1	..	1	1	2	1	..	1	1	1	7	8	1	17
Dropsy	4	1	4	6	3	3	1	3	1	4	4	9	5	8
Goitre	..	..	..	..	..	1	..	..	..	..	..	..	..	..
Leucocythæmia	..	..	..	..	..	..	.	..	..	2	..	..	1	3
Lupus	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lymphadenoma	..	..	..	..	..	..	..	..	..	..	1	..	..	1
Rheumatism	2	1	1	..	1	3	4	1	2	4	2	4	3	4
Total	8	4	8	10	7	8	5	6	4	11	15	23	10	36
ORDER TWO—TUBERCULAR.														
Abscess, psoas	..	..	..	..	..	..	..	1	..	..	1	1	..	1
Hydrocephalus	9	12	8	4	2	2	..	..	..	..	..	..	..	..
Meningitis, tubercular	10	5	8	12	9	4	3	2	2	1	1	1	..	..
Morbus coxarius	..	..	..	1	1	..	1	..	..	..	..	..	..	..
Phthisis	19	16	19	20	12	12	11	31	63	122	267	390	200	236
Scrofula	14	6	3	1	2	..	..	2	1	..	..	4	..	..
Tabes mesenterica	2	2	4	2	1	..	..	..	3	2	1	6	..	..
Total	54	41	42	40	27	18	15	36	69	125	270	402	200	237
Total Constitutional	62	45	50	50	34	26	20	42	73	136	285	425	210	273

Continued.

40 to 50.		50 to 60.		60 to 70.		70 to 80.		80 to 90.		90 to 100.		Over 100		Not Rept'd.		Males.	Females.	Total.
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
1	2	1	1	1	. .	2	2	1	1	. .	. .	. .	. .	. .	. .	11	17	28
6	46	24	50	26	45	19	25	7	7	. .	1	. .	. .	2	6	97	209	306
5	16	11	15	19	14	26	15	5	5	. .	. .	. .	. .	5	3	93	102	195
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. . . .	1	1
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	5	6
. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. . . .	1	1
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	1	2
3	3	10	2	4	4	9	4	2	. .	. .	. .	. .	. .	. .	1	43	31	74
15	67	46	68	50	63	56	46	15	14	. .	1	. .	. .	7	10	246	367	613
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	3	4
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	19	18	37
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	34	25	59
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	2	1	3
109	142	76	79	64	59	36	27	3	4	1	. .	. .	. .	27	27	907	1,165	2,072
. .	2	. .	. .	2	1	2	. .	. .	. .	. .	. .	. .	. .	. .	1	24	17	41
2	2	. .	. .	1	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	24	16	30
111	146	76	79	67	61	38	27	3	4	1	. .	. .	. .	28	29	1,001	1,245	2,246
126	213	122	147	117	124	94	73	18	18	1	1	. .	. .	35	39	1,247	1,612	2,859

TABLE D—

CLASS THREE—LOCAL DISEASES.	Under 1		1 to 5.		5 to 10.		10 to 15.		15 to 20.		20 to 30.		30 to 40.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
ORDER ONE—NERVOUS SYSTEM.														
Apoplexy	1	3	3	. .	1	. .	. .	. .	2	3	6	6	5	5
Brain, abscess	. .	1	1	1	. .	. .	2	1	1	. .	1	. .	. .	1
Brain, congestion	41	44	27	16	8	1	3	3	3	8	7	7	8	8
Brain, disease	4	6	2	1	2	. .	. .	. .	. .	1	1	2	2	1
Brain, effusion	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Brain fever	17	14	6	9	2	3	. .	. .	. .	1	. .	2	2	2
Brain, softening	2	1	. .	. .	. .	. .	. .	1	. .	1	1	. .	1	. .
Cerebritis	23	17	14	15	4	4	1	1	1	3	6	1	6	6
Chorea	. .	. .	. .	. .	. .	. .	1	1	. .	2	. .	1	. .	. .
Convulsions	99	97	30	21	6	6	1	. .	. .	2	2	5	. .	2
Epilepsy	. .	. .	. .	1	. .	1	3	. .	2	2	3	5	4	3
Locomotor ataxia	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .
Meningitis	58	33	53	43	7	13	5	5	5	7	7	4	6	3
Meningitis, cerebral	7	13	9	5	2	4	1	2	1	1	. .	. .	2	1
Meningitis, spinal	7	9	3	5	3	3	. .	1	2	3	. .	1	. .	1
Muscular atrophy	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1
Myelitis	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	. .
Nervous prostration	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	4	1	5
Neuralgia	. .	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	1	. .
Neurasthenia	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Paralysis	3	1	3	1	1	3	4	2	3	2	9	1	7	5
Rachitis	2	. .	1	3	. .	. .	. .	. .	. .	. .	. .	. .	. .	1
Spina Bifida	9	4	3	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Spinal Schlerosis	. .	. .	. .	. .	. .	. .	. .	. .	1	2	1	. .	. .	. .
Spine Disease	1	. .	3	3	1	1	2	2	. .	. .	. .	. .	2	. .
Tetanus	8	9	. .	. .	. .	1	2	1	2	. .	. .	1	1	. .
Total	284	252	159	125	37	40	25	21	23	39	44	40	49	45
ORDER TWO—CIRCULATORY.														
Aneurism	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	2	1
Congestion	2	1	1	1	1	. .	. .	. .	. .	1	. .	2	1	2
Embolism	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	1	1	. .	2
Epistaxis	. .	1	. .	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	. .
Heart Disease	18	9	3	5	8	5	9	7	7	17	15	27	33	35
Hemorrhage	1	. .	. .	. .	1	. .	. .	. .	. .	. .	1	. .	1	1
Phlebitis	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Syncope	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Total	21	11	4	7	10	5	9	7	7	19	17	30	37	41
ORDER THREE—RESPIRATORY.														
Asthma	2	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	2
Bronchitis	51	53	32	36	11	3	1	1	4	3	5	4	12	9
Catarrh	. .	. .	1	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Glottis Oedema	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Haemoptysis	2	1	1	. .	1	. .	. .	. .	1	. .	3	2	3	1
Hydrothorax	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1
Influenza	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Laryngitis	2	4	5	7	2	5	1	. .	2	1	. .	. .	. .	. .
Lungs, Abscess	4	. .	1	1	2	. .	1	. .	1	1	1	. .	2	. .
Lungs, Congestion	26	20	10	12	8	5	2	1	5	3	1	7	1	6
Lung Disease	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Lung Emphysema	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Lung Oedema	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Pharyngitis	. .	. .	. .	. .	. .	2	. .	. .	. .	1	. .	. .	. .	. .
Pleuritis	1	. .	. .	1	. .	1	. .	. .	. .	. .	3	. .	. .	. .
Pneumonitis	135	94	95	91	32	26	12	16	40	29	64	29	57	40
Pneumonitis, Broncho	1	2	1	. .	. .	2	. .	. .	. .	. .	1	. .	. .	. .
Pneumonitis, Catarrhal	4	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	. .	1	. .
Pneumonitis, Pleuro	. .	. .	. .	1	. .	. .	1	. .	. .	. .	2	1	. .	1
Pneumonitis, Typho	. .	3	1	2	2	1	1	4	3	2	8	4	4	3
Total	231	178	148	153	58	45	19	22	56	41	88	58	80	63

Continued.

40 to 50.		50 to 60.		60 to 70.		70 to 80.		80 to 90.		90 to 100		Over 100		Not Rept'ed		Males.	Females.	Total.
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
12	10	18	16	30	24	33	19	9	15	1	1	. .	. .	3	3	124	105	229
. .	1	1	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	7	5	12
2	5	7	5	7	5	5	3	1	. .	. .	. .	. .	. .	1	. .	120	105	225
. .	. .	2	4	1	1	1	1	. .	. .	. .	. .	1	. .	. .	. .	16	17	33
. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	2	. . . .	2
2	. .	1	. .	. .	. .	3	. .	. .	2	. .	. .	. .	. .	. .	. .	33	33	66
4	2	4	4	8	4	5	5	2	2	. .	. .	. .	. .	1	1	28	21	49
5	3	3	. .	. .	1	2	. .	. .	1	1	. .	. .	. .	3	7	69	59	128
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	4	5
1	. .	. .	1	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	3	. .	143	134	277
1	. .	1	3	1	1	. .	1	. .	. .	. .	. .	. .	. .	1	1	16	18	34
1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	3	. . . .	3
4	1	5	3	5	. .	2	. .	. .	1	. .	. .	. .	. .	3	2	160	115	275
1	. .	1	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	24	27	51
. .	. .	1	. .	1	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	17	24	41
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. . . .	1	1
1	. .	1	1	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	3	2	5
1	2	1	2	1	4	. .	1	3	1	. .	. .	. .	. .	2	. .	10	19	29
. .	1	1	3	. .	. .	1	1	. .	. .	. .	. .	. .	. .	. .	. .	3	6	9
. .	1	. .	1	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	1	. .	2	2	4
10	12	18	14	42	28	55	52	16	17	4	. .	. .	. .	5	6	180	144	324
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	3	4	7
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	12	6	18
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	2	2	4
1	. .	1	1	1	1	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	13	8	21
. .	. .	1	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	15	12	27
46	38	68	58	98	69	110	84	32	40	6	1	1	. .	34	11	1,016	863	1,879
1	. .	1	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	5	1	6
. .	1	. .	1	1	. .	2	1	. .	. .	. .	. .	. .	. .	. .	1	8	11	19
. .	1	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	6	7
. .	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	1	1	3	4
49	42	57	42	66	70	65	54	14	19	2	. .	. .	. .	11	12	357	344	701
. .	2	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	5	3	8
. .	1	1	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	2	3
. .	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. . . .	1
50	47	60	44	68	71	69	55	14	19	2	. .	. .	. .	11	14	379	370	749
2	1	4	8	5	1	6	6	2	1	. .	1	. .	. .	. .	. .	21	21	42
5	8	7	9	14	10	20	9	7	10	. .	. .	. .	. .	1	1	170	156	326
1	1	1	. .	1	1	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	4	4	8
. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. . . .	2	2
4	1	1	2	2	3	3	2	1	. .	. .	. .	. .	. .	. .	1	22	13	35
. .	. .	1	. .	3	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	5	2	7
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. . . .	1
2	1	. .	1	1	1	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	16	20	36
3	. .	2	. .	. .	. .	2	. .	. .	1	. .	. .	. .	. .	. .	. .	19	3	22
5	6	3	. .	6	1	3	4	3	2	2	. .	. .	. .	1	3	76	70	146
1	. .	1	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	3	1	4
1	. .	. .	. .	1	3	1	2	1	. .	. .	. .	. .	. .	1	. .	5	6	11
. .	. .	. .	1	2	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	3	1	4
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. . . .	3	3
1	1	2	2	4	1	2	. .	. .	. .	. .	. .	. .	. .	. .	. .	13	6	19
52	38	56	48	61	67	62	61	25	26	1	. .	. .	. .	14	9	706	584	1,290
. .	. .	. .	. .	. .	. .	1	. .	. .	1	. .	. .	. .	. .	. .	. .	4	5	9
. .	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	5	2	7
. .	2	. .	1	1	1	. .	1	. .	. .	. .	. .	. .	. .	1	. .	5	8	13
3	3	6	3	3	3	4	. .	. .	. .	. .	. .	. .	. .	. .	. .	35	28	63
80	62	84	76	104	95	105	85	39	41	3	2	. .	. .	18	14	1,113	935	2,048

TABLE D—

CLASS THREE—LOCAL DISEASES.	Under 1		1 to 5.		5 to 10.		10 to 15.		15 to 20.		20 to 30.		30 to 40.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
ORDER FOUR.—DIGESTIVE.														
Bowels, catarrh	. .	5	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	1	. .
Bowels, congestive	7	6	5	2	1	1	1	. .	1	2	2	3	1	1
Bowels, disease	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Bowels, hemorrhage	2	4	. .	1	. .	. .	. .	. .	. .	. .	1	. .	2	. .
Bowels, obstruction	7	2	. .	. .	1	1	1	1	2	. .	2	2	2	1
Bowels, paralysis	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Bowels, ulceration	1	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	1
Colic	6	2	. .	1	. .	. .	. .	. .	. .	1	. .	. .	. .	. .
Colitis	2	1	2	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .
Dyspepsia	4	1	1	. .	. .	. .	. .	. .	1	. .	2	. .	1	1
Enteritis	45	28	18	22	7	4	1	3	6	6	4	6	6	7
Gall stones	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	2	. .
Gastritis	9	9	6	6	4	2	3	. .	2	3	3	10	2	9
Gastro-enteritis	5	7	5	. .	1	. .	. .	. .	1	1	2	2	1	. .
Hæmatemesis	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Hepatitis	3	1	1	4	2	1	. .	. .	. .	. .	2	2	1	3
Hernia	3	. .	. .	. .	. .	. .	. .	. .	1	. .	1	. .	1	2
Intestinal perforation	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	. .	. .
Intussusception	1	1	3	1	2	1	1	2	2	. .	1	. .	1	. .
Jaundice	4	4	. .	1	. .	. .	1	. .	. .	. .	1	. .	3	1
Liver, abscess	. .	. .	. .	. .	. .	1	. .	. .	. .	1	. .	1	2	1
Liver, atrophy	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	1	. .
Liver, cirrhosis	. .	. .	1	. .	. .	. .	1	. .	. .	. .	1	. .	2	. .
Liver, congestion	4	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	1	. .
Liver, disease	3	. .	3	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	2
Liver, hypertrophy	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Oesophagus stricture	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Peritonitis	4	8	2	4	3	6	5	7	7	10	10	27	9	15
Splenitis	. .	1	. .	. .	. .	. .	. .	. .	. .	1	. .	. .	1	. .
Stomach, catarrh	2	2	2	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	. .
Stomach, congestion	8	6	3	3	. .	1	. .	1	. .	. .	1	4	4	2
Stomach, disease	2	1	. .	. .	. .	. .	. .	1	. .	. .	2	. .	. .	1
Stomach, hemorrhage	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .
Stomach, ulceration	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	3	1	2
Stomatitis	2	1	1	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Throat disease	3	. .	2	. .	1	. .	. .	. .	. .	. .	1	. .	. .	. .
Tonsilitis	1	3	1	4	1	3	1	. .	. .	1	1	. .	. .	. .
Typhlitis	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	3	. .	1	. .
Total	130	94	57	51	23	22	17	15	23	27	42	61	48	49
ORDER FIVE—URINARY.														
Albuminurea	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	1	8	. .	2
Calculus	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1
Cystitis	. .	1	1	. .	1	. .	1	1	. .	. .	. .	2	1	. .
Diabetes	. .	. .	. .	1	2	. .	1	1	3	. .	. .	. .	4	1
Hæmaturia	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	1
Hodgkin's disease	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Kidney disease	. .	1	2	. .	. .	. .	. .	. .	. .	. .	1	1	1	. .
Nephria	2	1	. .	3	1	1	. .	2	. .	3	7	4	9	7
Nephritis	2	. .	2	1	2	2	1	. .	. .	. .	. .	6	4	2
Prostatitis	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Renal calculi	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	. .
Uræmia	. .	2	1	1	2	. .	. .	. .	1	. .	1	3	1	5
Urethra, stricture of	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Urine, suppression of	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .
Total	5	5	6	7	8	3	4	4	4	3	10	26	20	19
ORDER SIX—GENERATIVE.														
Metritis	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	7	. .	3
Orchitis	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .
Spermatorrhœa	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	. .	. .
Tumor, ovarian	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	2	. .	1
Tumor, uterus	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1
Total	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	1	9	1	5

Continued.

40 to 50.		50 to 60.		60 to 70.		70 to 80.		80 to 90.		90 to 100.		100 and over.		Not Reptd.		Males.	Females.	Total.
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
1	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	2	8	10
2	2	4	1	4	1	..	2	1	..	..	..	..	..	..	..	29	21	50
..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	2	....	2
1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	6	6	12
1	3	1	2	2	5	2	3	..	1	..	..	..	..	..	..	21	21	42
..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	3	....	3
1	..	1	1	..	..	..	..	..	..	..	..	..	..	1	..	5	3	8
..	..	..	..	..	..	1	1	2	..	..	..	..	..	..	1	9	6	15
1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	5	3	8
..	1	1	..	3	..	..	1	..	1	..	..	..	..	..	..	13	5	18
11	5	8	8	6	7	5	8	..	..	2	..	..	..	1	..	120	104	224
..	..	..	..	..	2	..	..	1	..	..	..	..	..	..	..	3	2	5
9	5	8	7	16	4	4	4	2	2	1	..	..	..	1	1	70	62	132
3	1	2	..	2	2	1	2	1	..	..	..	..	..	..	..	24	15	39
..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	....	1	1
2	1	1	8	6	4	2	2	1	..	..	..	..	..	2	2	23	28	51
2	1	1	4	4	3	3	2	1	..	..	..	..	..	1	..	18	12	30
..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	1	2
1	2	2	..	2	1	..	2	..	..	..	..	..	..	..	..	16	10	26
2	1	..	3	..	1	..	3	..	..	..	..	..	..	..	1	11	15	26
3	..	3	..	2	2	..	3	..	..	..	..	..	..	..	..	10	9	19
..	1	..	..	1	..	..	1	..	..	..	..	..	..	..	..	3	2	5
3	..	4	2	11	2	1	2	1	..	..	..	..	..	..	..	25	6	31
..	2	1	..	..	..	2	..	..	..	..	..	..	..	..	..	9	2	11
2	2	4	4	4	2	2	2	..	..	..	..	..	..	..	1	18	13	31
1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	1	2	3
..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	2	1	3
2	5	2	4	6	2	3	3	..	..	..	..	..	..	..	..	53	91	144
1	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	3	3	6
..	1	..	..	..	1	1	..	..	..	1	..	..	..	..	..	6	5	11
3	5	..	2	3	3	4	3	1	2	..	..	..	..	..	1	27	33	60
..	..	..	..	1	..	..	1	1	1	..	..	..	..	..	..	6	5	11
..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	2	....	2
3	..	2	..	1	4	2	2	..	..	..	..	..	..	..	..	10	11	21
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	2	5
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	....	7
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	11	16
1	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	8	1	9
56	39	50	48	76	48	33	49	13	9	4	..	..	..	7	8	579	520	1,099
1	2	3	..	5	..	3	2	..	1	..	..	..	..	1	..	14	16	30
..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	3
4	..	3	2	8	1	10	..	7	..	1	..	..	..	1	..	38	7	45
6	4	5	2	6	2	4	..	2	..	..	..	..	..	2	..	35	11	46
..	..	..	..	1	..	1	..	1	..	..	..	..	..	..	..	3	2	5
1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	2	....	2
2	1	3	..	3	2	2	..	2	..	..	..	..	..	..	..	16	5	21
9	7	11	10	23	11	16	9	4	..	..	..	..	..	..	..	82	58	140
6	1	..	1	5	2	5	1	1	1	..	..	..	..	1	..	29	17	46
..	..	..	..	1	..	1	..	3	..	..	..	..	..	..	..	5	....	5
..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	2	1	3
2	1	3	1	7	1	14	1	3	..	..	..	..	..	1	1	36	16	52
..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	2	....	2
..	..	1	..	1	1	1	..	..	..	..	..	..	..	..	..	4	1	5
31	17	30	16	60	20	59	13	25	2	1	..	..	..	6	1	269	136	405
..	1	..	1	..	1	..	1	..	..	..	..	..	..	..	..	....	15	15
..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	2	....	2
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	....	1
..	..	..	1	..	1	..	2	..	..	..	..	..	..	..	..	...	7	7
..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	....	3	3
..	1	..	4	..	2	1	3	..	..	..	..	..	..	..	..	3	25	28

TABLE D—

CLASS THREE—LOCAL DISEASES.	Under 1.		1 to 5		5 to 10.		10 to 15.		15 to 20.		20 to 30.		30 to 40,	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Order Seven—Locomotary.														
Necrosis of tibia	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Total	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Order 8—Integumentary.														
Abscess	4	2	1	3	. .	. .	. .	. .	. .	2	3	2	1	3
Total	4	2	1	3	. .	. .	. .	. .	. .	2	3	2	1	3
Order Nine—Miscellaneous.														
Adenitis	1	. .	1	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .
Antrim, inflam. of	. .	. .	. .	. .	. .	. .	. .	. .	1	.	. .	. .	. .	. .
Cellulitis	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	2	. .	1
Otitis media	1	. .	. .	2	. .	. .	. .	. . .	. .	. .	. .	. .	. .	. .
Tumor	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	2	. .	. .
Total	2	.	1	2	1	. .	. .	. .	1	. .	2	4	. .	1
Total Local Diseases	677	542	376	348	137	115	74	69	114	132	207	230	236	226

Continued.

40 to 50.		50 to 60		60 to 70.		70 to 80.		80 to 90.		90 to 100.		100 and Over.		Not Rept'd.		Males	Females.	Total.
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	....	1
..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	....	1
1	2	2	5	2	2	1	..	2	..	..	..	..	..	..	1	17	22	39
1	2	2	5	2	2	1	..	2	..	..	..	..	..	..	1	17	22	39
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	....	3
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	....	1
..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	2	3	5
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	3
..	2	3	2	1	4	3	..	..	..	..	..	..	..	..	2	8	12	20
..	2	4	2	1	4	3	..	..	..	..	.	..	..	..	2	15	17	32
264	208	299	253	409	311	381	289	125	111	16	3	1	..	76	51	3,392	2,888	6,208

TABLE D—

CLASS FOUR—DEVELOPMENTAL DISEASE.	Under 1.		1 to 5.		5 to 10.		10 to 15.		15 to 20.		20 to 30.		30 to 40.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Order One—Children.														
Atelectasis	7	9	2	..	..	..	..	..	..	..	..	..	..	..
Birth, injuries	13	12	..	..	..	..	..	..	..	..	..	..	..	..
Birth, premature	121	78	..	..	..	..	..	..	..	..	..	..	..	..
Cyanosis	35	26	3	..	1	..	..	..	..	..	..	..	..	..
Dentition	3	1	1	..	..	..	..	..	..	..	..	..	..	..
Hemorrhage, umbilical	2	..	..	..	..	..	..	..	..	..	..	..	..	..
Malformation	8	6	..	..	..	..	..	..	..	..	..	..	..	..
Malnutrition	7	1	..	..	..	..	..	..	..	..	..	..	..	..
Prolapsus, funis	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Total	196	134	6	..	1	..	..	..	..	..	..	..	..	..
Order Two—Women.														
Amenorrhœa	..	..	..	..	..	..	..	..	..	1	..	..	..	..
Climacteria	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Parturition	..	..	..	..	..	..	..	..	..	2	..	15	..	18
Phlegmatia, dolens	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Placenta previa	..	..	..	..	..	..	..	..	..	..	..	1	..	6
Post-partum hem	..	..	..	..	..	..	..	..	..	..	..	4	..	6
Puereperal eclampsia	..	..	..	..	..	..	..	..	..	7	..	15	..	9
Uterine hemorrhage	..	..	..	..	..	..	..	..	..	..	..	4	..	5
Uterus, disease	..	..	..	..	..	..	..	2	..	..	..	3	..	4
Total	..	..	..	..	..	..	..	2	..	10	..	42	..	50
Order Three—Old Age.														
Old age	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Order Four—Nutrition.														
Asthenia	..	1	..	..	..	..	..	..	..	..	..	1	..	..
Debility	33	13	1	..	..	..	..	1	..	2	..	1	1	1
Exhaustion	15	14	..	..	1	..	..	..	..	..	2	4	1	..
Marasmus	18	34	8	9	1	1	..	..	1	..	..	..	1	..
Total	66	62	9	9	2	1	..	1	1	2	2	6	3	1
Total Developmental	262	196	15	11	2	2	..	3	1	12	2	48	3	51

Continued.

40 to 50.		50 to 60.		60 to 70.		70 to 80.		80 to 90.		90 to 100.		100 and Over.		Not Rep'td.		Males.	Females.	Total.
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	9	9	18
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	13	12	25
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	121	78	199
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	38	29	67
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	4	1	5
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	2	. . . .	2
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	8	6	14
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	7	1	8
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. . . .	1	1
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	202	137	339
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. . . .	1	1
. .	4	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. . . .	5	5
. .	5	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	3	. . . .	43	43
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. . . .	1	1
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. . . .	7	7
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. . . .	10	10
. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	2	. . . .	34	34
. .	3	. .	. .	. .	2	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. . . .	14	14
. .	3	. .	2	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. . . .	15	15
. .	16	. .	2	. .	2	. .	. .	. .	. .	. .	. .	. .	. .	. .	6	. . . .	130	130
. .	. .	. .	.	9	12	54	64	74	88	15	22	2	1	4	1	158	188	346
. .	. .	. .	. .	9	12	54	64	74	88	15	22	2	1	4	1	158	188	346
. .	1	. .	. .	. .	. .	2	. .	. .	. .	. .	. .	. .	. .	. .	. .	2	3	5
2	4	6	4	8	13	23	25	16	16	. .	4	. .	1	2	2	92	87	179
3	2	4	4	3	3	4	5	. .	. .	. .	. .	. .	. .	2	. .	35	32	67
1	1	1	. .	5	3	2	6	1	1	. .	. .	. .	. .	1	. .	40	55	95
6	8	11	8	16	19	31	36	17	17	. .	4	. .	1	5	2	169	177	346
6	24	11	10	25	33	85	100	91	105	15	26	2	2	9	9	529	632	1,161

TABLE D—

CLASS FIVE—VIOLENCE.	Under 1.		1 to 5.		5 to 10.		10 to 15.		15 to 20.		20 to 30.		30 to 40.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
ORDER ONE—ACCIDENTS.														
Accident	30	17	8	6	8	3	12	1	19	4	40	5	30	4
Accident, Railroad	. .	. .	2	. .	3	1	2	. .	6	1	23	. .	18	. .
Boiler explosion	. .	. .	. .	. .	. .	. .	. .	. .	2	. .	3	. .	2	. .
Burn	5	2	5	7	1	7	2	3	2	1	3	2	2	2
Drowning	2	. .	3	2	3	. .	7	. .	11	. .	6	. .	3	. .
Insolation	. .	3	1	. .	. .	1	. .	. .	1	. .	2	. .	6	1
Lightning	. .	. .	. .	. .	. .	. .	1	. .	2	. .	3	. .	2	. .
Poison	5	. .	. .	1	. .	. .	1	. .	1	. .	1	2	1	1
Shooting	2	. .	1	. .	. .	1	2	. .	4	1	6	2	3	1
Total	44	22	20	16	15	13	27	4	48	7	87	11	67	9
ORDER THREE—HOMICIDE.														
Total	2	2	1	1	. .	. .	. .	. .	6	. .	8	. .	4	1
ORDER FOUR—SUICIDE.														
Drowning	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .
Hanging	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	1	2	1	. .
Poision	. .	. .	. .	. .	. .	. .	. .	1	. .	1	1	6	3	. .
Shooting	. .	. .	. .	. .	. .	. .	1	. .	1	. .	7	. .	3	. .
Suicide	. .	. .	. .	. .	. .	. .	. .	. .	2	5	12	11	10	2
Total	. .	. .	. .	. .	. .	. .	1	1	3	7	21	19	18	2
Total Violence	46	24	21	17	15	13	28	5	57	14	116	30	89	12
UNKNOWN	98	68	10	16	4	5	6	3	4	5	12	17	14	10
RECAPITULATION.														
Zymotic Diseases	758	638	594	571	184	226	74	94	97	119	167	210	80	135
Constitutional Diseases	62	45	50	50	34	26	20	42	73	136	285	425	210	273
Local Diseases	677	542	376	348	137	115	74	69	114	132	207	230	236	226
Developmental Diseases	262	196	15	11	2	2	. .	3	1	12	2	48	3	51
Violence	46	24	21	17	15	13	28	5	57	14	116	30	89	12
Unknown	98	68	10	16	4	5	6	3	4	5	12	17	14	10
Grand Total	1903	1513	1066	1013	376	387	202	216	346	418	789	960	632	707

Continued.

40 to 50.		50 to 60.		60 to 70.		70 to 80.		80 to 90.		90 to 100		100 and Over.		Not Reported.		Males.	Females.	Total.
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
36	6	20	5	20	3	5	6	4	3	. .	. .	. .	. .	20	3	252	66	318
10	. .	8	1	7	1	2	. .	. .	. .	. .	. .	. .	. .	11	. .	92	4	96
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	8	. . . .	8
1	. .	2	. .	. .	3	. .	1	. .	1	. .	. .	. .	. .	. .	1	23	30	53
. .	. .	4	. .	. .	1	1	. .	. .	. .	. .	. .	. .	. .	2	. .	42	3	45
2	1	3	. .	1	1	3	1	. .	. .	. .	. .	. .	. .	. .	. .	19	8	27
1	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	11	. . . .	11
3	2	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	1	1	13	8	21
4	1	1	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	2	. .	26	6	32
57	10	38	6	29	9	12	9	4	4	. .	. .	. .	. .	38	5	486	125	611
5	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	26	5	31
1	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	2	1	3
3	. .	3	1	1	. .	3	. .	. .	. .	. .	. .	. .	. .	. .	. .	12	4	16
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11	1	9	1	3	2	3	. .	1	. .	. .	. .	. .	. .	. .	. .	51	22	73
16	2	12	3	4	2	6	. .	1	. .	. .	. .	. .	. .	. .	1	82	37	119
78	13	50	9	33	11	18	9	5	4	. .	. .	. .	. .	38	6	594	167	761
6	10	11	9	13	7	15	8	5	3	2	1	. .	. .	22	22	222	184	406
99	78	100	63	78	83	79	53	30	25	5	4	. .	. .	39	31	2,384	2,330	4,714
126	213	122	147	117	124	94	73	18	18	1	1	. .	. .	35	39	1,247	1,612	2,859
264	208	299	253	409	311	381	289	125	111	16	3	1	. .	76	51	3,392	2,888	6,280
6	24	11	10	25	33	85	100	91	105	15	26	2	2	9	9	529	632	1,161
78	13	50	9	33	11	18	9	5	4	. .	. .	. .	. .	38	6	594	167	761
6	10	11	9	13	7	15	8	5	3	2	1	. .	. .	22	22	222	184	406
579	546	593	491	675	569	672	532	274	266	39	35	3	2	219	158	8,368	7,813	16,181

MALARIAL FEVERS.

In this class we have placed congestive chill, catarrhal, congestive, intermittent, remittent and malarial fevers. The total number of deaths caused by these within the year is 257, the greatest number of which occurred in the months of August, September and October. The vital statistics collected during the five years' existence of this Board shows that the number of deaths from this class of febrile disturbances is gradually growing less. Undoubtedly the cause of this is due to the improved drainage and cultivation of our land and the improved sanitary condition of our towns and cities.

DIARRHŒAL DISEASES.

In this group have been placed cholera infantum, cholera morbus, diarrhœa, dysentery and entero-colitis. The whole number of deaths caused by this class of enteric diseases is 1,304. The greatest number, 959, or 73.61 per cent. of the whole, died in the months of July, August and September. The disease attended with the greatest fatality was cholera infantum, which caused 758 deaths; 582, or 76.78 per cent., were under one year of age. Unsanitary conditions of homes, depressing influences of warm weather, improper clothing, want of cleanliness, crowd poison, drinking polluted water, and eating tainted and unwholesome food are the principal causes which develop this class of diseases. There is no doubt but that the prevalence and mortality of these diseases can be materially lessened by strict observance of sanitary and hygienic laws.

ACUTE LUNG DISEASES.

The mortality from these diseases is as follows: bronchitis, 326; congestion of lungs, 146; pleurisy, 19; pneumonitis, 1,290; pleuro-pneumonia, 13; typhoid-pneumonia, 63; broncho-pneumonia, 9; influenza, 1. Total, 1,867. The greatest number of deaths occurred in the months of February, March and April, and the least number in the months of June, July and August. There were 438 more deaths reported from this class of diseases this year than during the previous one; however, when this number is compared with the total number of deaths from all causes, it will not show that the mortality from this class is on the increase, as there were reported nearly 2,000 more deaths from all causes this year than last year. The large number of deaths from bronchitis and pneumonia was due, undoubtedly, to the fact that within the year measles prevailed in an epidemic form in nearly every county of the State, and as these acute lung affections frequently follow this disease after slight exposure, it is fair to presume that its extensive prevalence played an important part in their development.

DIPHTHERIA.

Within the year this disease caused 525 deaths, an increased mortality from this disease of 133 when compared with that of the preceding year. Three hundred and ten, or more than one-half the deaths, occurred in the months of October, November, December and January. A large per cent. of the deceased were under ten years of age, showing it to be a fact that the young are particularly susceptible to the influence of the specific poison of this disease. The aged, however, are not exempt from it. It is both a contagious and infectious disease, with a material cause which has never been clearly defined. The result of recent investigations tend to prove that it is a specific disease caused by specific organisms (micrococci). Whether they are the true source of the disease remains to be demonstrated. Moisture aids its spread and increases its malignancy, prevailing more frequently and with greater fatality in neighborhoods that are damp and chilly, its dissemination being aided by filthy water and contaminated air. Local unsanitary conditions and surroundings, poor ventilation, crowd poison, defective sewerage, and the presence of decaying animal and vegetable matter contribute largely to its propagation. That each case is an infectious center, from which the disease may spread, should be recognized by all.

As the emanations from the body of a person who has died with the disease are poisonous and dangerous, the funeral, under all circumstances, should be strictly private, and a public one should never be tolerated. In regard to the prevention of the spread of diphtheria, we refer the reader to the preventable disease circular published in this report.

CROUP.

Last year the number of deaths reported from this disease was 327, 113 more than were registered the previous year. In examining the statistics of the State for the past five years, it will be seen that whenever there has been an increased number of deaths from diphtheria there has always been a corresponding increase in the death rate from croup. This is a circumstance which tends to prove the theory advanced by many that they are one and the same disease.

SCARLET FEVER.

The total number of deaths registered within the year, from this disease, was 178, a decrease of 91 when compared with the previous year. It is to be hoped that the people, and some individuals who are engaged in the practice of medicine, will learn that scarlet fever, scarlatina, scarlet and canker rash, are different names for the same disease, and the mildest case is capable of communicating the disease in its severest form. Scarlet fever is the only name that should be used, for so many names only tend to confusion.

It is pleasing to be able to say that the people understand that the spread of this disease can be prevented by the observance of proper precautions, such as isolation, proper care, and the judicious use of disinfectants.

TYPHOID FEVER.

Within the year there were 720 deaths reported from this disease, an increased number over the previous year of 121. This increase was to be expected from the fact that last summer was very warm and dry. The water in wells in various parts of the State became exhausted, and in others very low. The people in many localities were obliged to go miles for their water supply. Under such circumstances, it was almost impossible to secure pure water. Owing to this condition of things and the fact that polluted water is one of the prime factors in its development, it is a wonder that the increased mortality from this disease was not much larger. It is an infectious, specific, zymotic disease, with a specific poison contained in the discharges of the sick, which when introduced into the body of a susceptible healthy person will reproduce the same disease. Whenever it makes its appearance in a household its sanitary surroundings should be carefully examined. All sewers, drains, cess-pools, privies, etc., should be investigated, and when found to be in a foul condition should be thoroughly cleansed and disinfected. The fact that contaminated water is a frequent source of the disease, it should always command attention. As the discharges from the bowels of the afflicted contain the specific germ of the disease, they should always be disinfected as soon as passed from the body.

MEASLES.

Within the year there were reported 259 deaths from this disease, of which number 183 occurred in the months of March, April and May. Many persons are of the opinion that this is a disease which is not accompanied by danger. This is an erroneous impression, as during an average epidemic of the disease the mortality rate, caused directly and indirectly by it, is considerable. Within the year, during the prevalence of an epidemic of measles in several counties, this Board issued an order directing that prompt and strict isolation be practiced, and that all infected and suspected persons be excluded from schools and public places. It is believed that by the enforcement of this order the disease was much restricted, and that loss of life was prevented.

BARTHOLOMEW COUNTY.

COLUMBUS, IND., October 31, 1887.

The general health of the citizens of Bartholomew County, during the fiscal year ending September 30, 1887, was remarkably good, and it would be no exaggeration to say that it was better than ever known in the history of the county. The people suffered but little from the so-called malarial diseases. And there was no outbreak of any of the contagious or infectious diseases among the inhabitants, save a few cases of measles, of which there were five cases reported, though there were undoubtedly many more which were not reported, though there was no general epidemic of measles.

There were nine cases of scarlet fever reported. These reports came from five neighborhoods, situate from three to fifteen miles apart; the reports show that the disease occurred in eight families, and in seven of these families there were from four to nine persons, all of which were more or less exposed, still there was no spread of the disease, though two deaths were reported from it. The foregoing facts create the impression in my mind that the identity of the disease was mistaken, if not that, it was sporadic. Therefore it does not possess the virus, or virulence necessary to propagate the disease as a contagion. We also had two cases of diphtheria, reported during the year, one in Petersville, the other in Columbus, but there was no spread in either place. Here we are again confronted with the question, Is sporadic disease contagious?

The death record of the county shows nineteen deaths from typhoid fever during the year, but there were only six cases of typhoid fever reported as being of a malignant and contagious character, these cases occurred during the months of October, November and December, 1886. Three in Waymansville, and three in Columbus, but there was no spread of the disease in either place. Though we disclaim the prevalence of any contagious or infectious disease, we dare not claim it due to extra sanitary precaution, nor to the sanitary condition of the county in general, as we are confronted by a death rate of about eighteen per thousand, and a death record of three hundred and eighty-seven persons, and no one will claim that this record is complete, there being deaths not reported. Yet this record shows that three hundred and fifty-seven of our people died under their allotted three score and ten years, while only thirty passed three score and ten, seven of the thirty reached and passed four score years. Unquestionably many of the three hundred and fifty-seven lives might have been protracted many years, had the authorities strictly enforced the rules and regulations adopted by the State Board of Health, under the law that the citizens might have enjoyed the benefit of good hygienic improvement, the world's only hope, and the only antidote for hereditary and acquired diseases. Respectfully yours,

J. S. ARWINE, M. D.,
Secretary Board of Health of Bartholomew County.

BENTON COUNTY.

FOWLER, IND., October 31, 1887.

In response to your circular I herewith transmit my report of Benton County.

During the statistical year ending September 30, 1887, Benton County has been free from epidemics or contagious diseases with the exception of measles, which prevailed to quite an extent during the early spring month. It was impossible to get a full report as physicians almost universally failed to report cases of measles occurring in their practice.

The necessary steps were taken to prevent the spread of the disease, which was uniformly adopted, with few exceptions, by all the families in which the disease occurred. Nearly all physicians took the necessary precautions against the spread by having the signal flags conspicuously displayed.

During the year the following contagious diseases were reported:

Measles	45 cases.
Scarlet fever	6 "
Diphtheria	5 "

The deaths resulting from the above causes were three from measles, one from diphtheria, one from scarlet fever. Two deaths were also reported from typhoid fever.

In all cases of diphtheria and scarlet fever that came to my knowledge the rules and regulations of the Board of Health were observed and its instructions carried out so far as it was possible to do so.

The health of Benton County has been steadily improving for the last five years, owing to the increased drainage which has now dispelled almost everything worthy the name of marsh or slough, and during the past year the largest crops were grown on what was a few years ago the habitat of the musk-rat and marsh-hen.

The domestic animals of this county have been free from disease, excepting hog cholera, which prevailed to a limited extent during the summer months.

The Benton County Asylum for the Poor is in good condition and well kept, as is also the jail, but it is a fact to be deplored that the insane of the county have to be kept in the county jail, where the necessary confinement is making rapid inroads on their health.

The topography of Benton County is very favorable to health. The center of the county is 857 feet above ocean level, and the natural drainage is in all directions from the center. The southern and eastern portion of the county is from 100 feet to 157 feet lower than the highest point in the center. The land is fertile, a beautiful rolling prairie, well adapted to agriculture and stock raising, susceptible of being thoroughly drained, and with thorough drainage good health in man and animal. With these natural advantages there is no reason why Benton County should not double her present population in the next few years. Respectfully submitted,

J. S. MAVITY, M. D.,
Secretary Benton County Board of Health.

CARROLL COUNTY.

DELPHI, IND., October 31, 1887.

C. N. Metcalf, M. D., Indianapolis:

DEAR DOCTOR—In reply to your circular letter relative to contagious and infectious diseases prevalent in this county, I have to inform you that with the exception of the practice of our physicians there has been nothing worthy of note. In one township in the county, however, there has been a large number of typhoid fever patients, though the mortality thus far has not been alarming. In an adjoining township in Tippecanoe County, also, there have been a number of deaths, and for the opinion that the cause of those cases was impure water I am indebted to Dr. C. E. Angell, the consulting physician, who resides here, and in one locality in a township in this county where a single death occurred, Dr. I. N. Cochran was very positive in his expressions relative to this same cause producing typhoid cases in his practice.

With regard to the other diseases you inquire about, I have to report less, I think, than in former years. In diphtheria reports there are often from three to nine persons in a family with a single case of diphtheria, and that not fatal, so I have to reiterate an opinion heretofore expressed, that without doubt many cases reported as diphtheria are nothing more than "sore throat" or laryngitis, without an element of malignity raising the cases to the dignity of diphtheria or scarlatina. In errors of this kind, if errors they are, we are largely compensated by more complete sanitary regulations preventing the spread of such diseases and stamping out the causes leading to first attacks. If, now, we had some rule by which to determine aggregates or where to draw the line between malignant and benign, "ignorance would be a bliss" and "wisdom a folly."

With all the lights before us then, there is no known cause of typhoid so potent for evil as impure water.

Truly yours, E. WALKER.

CRAWFORD COUNTY.

LEAVENWORTH, IND., Oct. 31, 1887.

Chas. N. Metcalf, M. D., Secretary State Board of Health:

DEAR DOCTOR—Your circular of inquiry concerning contagious diseases, bearing date Nov. 6, 1887, received.

We have had no cases either of small-pox, scarlet fever or diphtheria. One death from cerebro spinal meningitis reported. Some twenty cases of typhoid fever have been reported, of which there were five deaths. These cases have been sporadic, and probably some of them were very mild, being nothing more than a severe type of malarial fever.

Physicians have not made full reports. Sanitary condition good.

Very truly yours, H. H. SETSER, M. D.,
Sec'y County Board of Health.

DEKALB COUNTY.

ST. JOE, IND., Oct. 31, 1887.

C. N. Metcalf:

The sanitary condition of county is good, and has been during the past year. There has been but one epidemic of the following diseases:

Scarlatina	14
Typhoid fever	7
Diphtheria	18
Spinal meningitis	3

According to reports there has been few isolated cases of spinal meningitis, diphtheria and typhoid fever in county. No small-pox reported.

All necessary precautions were used to prevent spreading of diseases by disinfection and isolation.

H. W. BOWMAN, M. D.

ELKHART COUNTY.

GOSHEN, IND., October 31, 1887.

C. N. Metcalf, M. D., Secretary State Board of Health:

In reply to your inquiry regarding the sanitary condition of and the degree of prevalence of contagious diseases in this county for the year ending September 30, 1887, would say that this county is well situated for good drainage, two rivers of considerable volume run through it, and the whole county being thoroughly drained by numerous ditches emptying into small streams, all of which finding their way to Lake Michigan through the St. Joseph River, excepting the extreme southwestern portion of the county, which finds its way into the Kankakee. We are provided with a large, commodious, well-located and well-regulated county asylum, situated on the banks of the Elkhart River, which affords ample means for the best of sewerage, and with but little extra trouble and expense, and on short notice the county can arrange for any epidemic that may occur by utilizing the natural advantages of the site of the asylum.

Besides the County Board of Health this county has five local boards, some of which are not of the least benefit, as the law creating them contemplated. The greatest trouble being the paltry remunerations of their respective secretaries. Goshen, the county seat, however, is an exception, and I think no city of its size and advantages can well be kept in a better sanitary condition.

The most unsatisfactory portion of this report is my inability to get any where near accurate and reliable statistics regarding the prevalence of contagious diseases. Many physicians who promptly report deaths and births do not consider the reporting of contagious diseases of enough importance to comply with the law. Then there are many cases of contagious diseases occurring in families, who, for some peculiar reason, prefer not to have the matter made public. So this part of my report being unsatisfactory to me, will prove of no great benefit or value to you. Early in the year there was an epidemic of measles which continued for several months, with probaby 800 or 1,000 cases, and only a few of them reported to me by the heads of families or physicians in attendance. Diphtheria and scarlet fever were of frequent occurrence during the fall, winter and spring months, mostly of a sporadic nature. Generally the causes being of some local origin, as occasionally most every member in a family being affected, without affecting their neighbors. (Right here I would suggest that on account of such a vast difference in the early diagnosis among physicians of diseases affecting the throat, physicians should be instructed to put up *cards* in cases of sore throat where there is the least supposition whatever of a contagious character, whether it proves to be so or not.)

During July, August and September, typhoid malarial fever was more prevalent than usual. The cause of which was probably due to the drought, causing very low water in most of the shallow wells. As a rule, the wells of the greater portion of this county are not to exceed from 12 to 18 feet deep. A few wells are put down to the second strata of water, which I find to be freer from objectionale matter, and think if they were universal it would be the result of avoiding much of our so called *typhoid fever*.

Yours truly,

JOS. H. HEATWOLE,
Secretary Elkhart County Board of Health.

FAYETTE COUNTY.

CONNERSVILLE, IND., October 31, 1887.

C. N. Metcalf, M. D., Secretary:

DEAR SIR—In answer to your circular of November 5 calling for report of the sanitary condition of our county to September 30, 1887, I find ten cases of typhoid fever reported from September, 1886, to September, 1887; ten cases of scarlet fever; 5 cases of diptheria, and three of measles. We have had no epidemic of any kind during the past year; what cases have occurred are sporadic. I think what cases of typhoid fever we have had were caused by a few wells of surface water. We have localities where the water supply is from low ground or made earth that have not been properly drained; that is where we find the great source of typhoid fevers. Our county is very healthy, being of rolling, limestone soil, and along the streams a good gravelly foundation, rendering it dry and healthy. The county is in a fine state of cultivation. Our county asylum is in a good sanitary condition. I have made some suggestions in the way of improvements as reported to you the 30th of March. Our County Commissioners have readily made the improvements as recommended. Our schools are in a healthy, prosperous condition.

I think the physicians only report about half of their cases of disease; some of which I have to hunt up and report for them. The greater portion of our typhoid fever occurred in September, terminating in October and November, and not reported in the last quarter, and will show in the next annual report; therefore my report will seem short. I will try to get the reports more complete in the future. We have tried to isolate our contagious cases, and think we have succeeded fairly; have urged the use of disinfectants with good results. We will urge physicians by letter or circular to report more promptly their contagious and infectious diseases. I would like to have circulars to send them issued by the State Board, with imperative orders to report all of their cases promptly.

Very respectfully, W. H. GREGG,
Secretary.

FOUNTAIN COUNTY.

COVINGTON, IND., Oct. 31, 1887.

C. N. Metcalf, M. D., Indianapolis, Ind.:

DEAR DOCTOR—In answer to your inquiry concerning the sanitary condition of Fountain County during the past year, am glad to be able to state that there has been less sickness during that period than during the same length of time in the last fifteen years. There have been no epidemics; endemics have disappeared and sporadic cases but few in number. I am unable to report correctly the number of cases of typhoid fever that occurred during the past twelve months, also of diphtheria and other contagious diseases. Nor am I able to state the means used to prevent the spread of them on account of a failure on the part of physicians to make the necessary returns. But whatever the means used to prevent the spread of diseases may have been, they were successful, if their failure to spread is evidence of the success of the means used to prevent it. A little more perseverance on the part of physicians in their endeavor to suppress and stamp out disease will, in a few years, secure complete immunity from sickness to the people, and the practice of physic become one of the "lost arts."

This, I can truthfully say, is a "consummation" I "devoutly" wish for, while I am doing but little to bring it about. J. W. MOCK,
Sec'y Fountain County B'd of Health.

FULTON COUNTY..

ROCHESTER, IND., Oct. 31, 1887.

I have examined my records and find reported 52 cases of diphtheria, 33 of scarlet fever and 3 cases of typhoid fever. In all of these cases the cause has not been stated. Several were sporadic and most in an epidemic form. Physicians have been tolerably prompt in reporting contagious diseases, but somewhat careless in filling out the blanks; and in all cases of reported diseases of such nature I have written to such physicians making the report, requesting them to use all due means and precautions to confine the disease and prevent its spread; and when death or recovery takes place, to thoroughly disinfect and purify the premises. The sanitary condition of Fulton County for the past 12 months has been very good. These diseases have occurred in the central, southern, eastern, northern and western portions of the county. I am inclined to believe that many of the reported cases of diphtheria were only sore throat.

Yours truly,

DR. A. M. SHIELDS.

HARRISON COUNTY.

CORYDON, IND., October 31, 1887.

Harrison is one of the southern border counties of the State, washed on the south by the Ohio, and on the west by Big Blue River. It has several small streams running through it, and many fine springs are found within its borders. Thus it is naturally very well watered, but as there are some large tracts devoid of springs and running streams, portions of our county, during excessively long droughts, sometimes suffer from scarcity of water, but such times are of rare occurrence. The general surface is somewhat rolling and undulating, becoming quite hilly in southwestern portion and along Blue River border. Almost the entire county has a clay subsoil, forming a good base for ponds, which are very numerous. In fact, almost every basin becomes a pond if not cultivated. Many of these ponds are of large size, and are quite valuable for stock water, fish growing, etc. Many of them being shallow, dry up during the summer and fall months, exposing their various deposits to the direct rays of the sun. Many become filthy pools, and are used as receptacles for all manner of waste and debris, both animal and vegetable. These smaller ponds thus undoubtedly become breeders of malaria and other poisonous gases and germs, creating and spreading diseases among the people. All of these smaller ponds, dangerous to health, could be destroyed, and the basins mostly cultivated by a small amount of labor, if the people could but be made aware of the importance of so doing. We possibly would be in error to claim that the drying up and decomposition of the animal and vegetable deposits of small ponds could act as agents in originating and propagating any of the contagious diseases, yet they appear to exert a very great influence upon the public health of the communities in which they exist.

The sanitary condition of the public schools of our county is excellent, and is being bettered each year. No cause for complaint exists. The poor farm of our county is situated in a healthy district, land well drained, but poor, not admitting of much improvement.

Buildings poorly constructed, and so situated and constructed that they can not be much improved. Great care has been taken to keep them in good sanitary condition during the past year. The inmates are kept clean, and they have been healthy. No case of any contagious or infectious disease has appeared among them this year. As the present buildings and grounds can never be made what they should be, Harrison County should purchase new grounds and erect new buildings.

The Harrison County jail is an elegant brick building, jail proper laid with stone, and is supplied with all things needful for health and comfort of inmates, except sanitary arrangements. In this respect it is worse than totally deficient. The most striking sensation noticeable on entering the jail is a strong ammoniacal odor, arizing from decomposing urine. The foul gases arising from the prison rooms permeates to more or less extent the entire building. As its condition now is, it stands as a point of danger, not only to its inmates, but also to the public A point that may become an infectious center at any time. It should be completely renovated and proper sanitary arrangements added. A public privy vault, situated near the county office building, is at present a source of much comment, and has to some extent been a source of trouble to the Health Board. It is used by the public generally, and being situated in the center of town its present arrangement is deplorable. But as yet a proper remedy does not seem to exist.

There has been a few cases of typhoid fever in our county during the year, but they have been isolated cases, and at no point has it been allowed to spread. I have no history of any as to origin. Two cases of scarlet fever have been reported. Do not know the origin. Some measles have existed, but none reported by physicians.

It seems to be an impossibility to get the physicians of this county to report contagious diseases.

Respectfully,

W. DANIEL.

HENDRICKS COUNTY.

DANVILLE, IND., October 31, 1887.

C. N. Metcalf, M. D., Indianapolis:

DEAR DOCTOR—During the year ending October 31, 1887, there was reported to this office the following contagious and infectious diseases:

Diphtheria	9
Typhoid fever	23
Scarlet fever	5
Measles	13

The cases of measles occurred mostly in the city of Danville, among students attending the Central Normal College. The other diseases were scattered throughout the county, and in one instance only were there any evidences of an outbreak of an endemic character. In the town of Clayton, there is a large, well-arranged school-house, containing several rooms for the different grades. The Primary Department occupies the southwest corner room, on the first floor. To the southwest of the school building, about three hundred feet, is located a large double-brick privy. The weather, during the early part of the school year, being quite warm and pleasant, the windows of the school-room were open a greater part of the time, and the prevailing winds being from the southwest, the emanations from the privy were carried directly into the room occupied by the children. It was but a short time until there was developed, in this room, almost simultaneously, four cases of well pronounced diphtheria. There were no cases in the town at the time. The County Superintendent, Mr. A. E. Rogers, and Dr. T. F Dryden, both of whom reside in the town, at once advised that the school be suspended for ten days, and that the premises be thoroughly disinfected. Public sentiment favored the suggestion. Their advice was followed. The vault and privy building were properly treated with disinfectants. The school-room was fumigated, and the sick children isolated. Though some of these cases were very grave, all recovered, and only one other case occurred in the town, and that was in the home of one of these four, the second case being a child under the "school age." From these facts it appears that there is here an example of both infection and of contagion, as also a striking illustration of the value of prophylactic medicine. That lives were here saved, by timely action, no one will doubt. It is gratifying to note the growth of public sentiment in favor of public hygenie. As a general rule proper measures are now employed in almost all cases of sickness from diseases dangerous to public health, which develop in this county. Very respectfully,

C. A. WHITE, M. D.,
Health Officer.

JASPER COUNTY.

RENSSELAER, IND., October 31, 1887.

C. N. Metcalf, M. D.:

DEAR SIR—I received your circular asking a sanitary report. In answer I would say that we have had no epidemic of any kind. There has been no contagious disease, excepting (said to be) a few cases of typhoid fever.

I am well aware of what your circular states—the incompleteness of all reports. But how will it be bettered? I have brought the matter before grand juries, and nothing is done. And about illegal practitioners. I have twice handed over such practitioners to the grand jury, and the patients for witnesses, and each time the jury failed to indict. I will not make personal affidavit, for I know it would be injurious to myself. See Benton County case. There is one here now that should be taken up, and one whose license should be revoked. I think it is a mistake of the law in putting this duty on county health officers, because it can not help but seem jealousy on their part. It should be the duty of some officer not in the profession. For one doctor to prosecute another looks to the people to be a law for the doctor's benefit, when, as it is, it is a law for the protection of the people. But the people won't see it that way. The physicians here would all like to be rid of these parasites, but neither of them will make the attack. Yours truly,

F. P. BITTERS.

JAY COUNTY.

PORTLAND, IND., October 31, 1887.

C. N. Metcalf, M. D., Secretary State Board of Health:

DEAR DOCTOR—Your favor of November 6, relative to the sanitary condition of Jay County for the year ending September 30, 1887, is before me. In reply, will say the sanitary condition of the county is good, considering the amount of labor and cost our people are to in caring for the surface water, which, however, is rapidly being done by farm drainage, gravel roads, straightening and otherwise improving streams. We have had no small-pox. We have had 28 cases of typhoid fever, only 3 of which were regarded as malignant in type. There were reported 13 cases of scarlet fever, and 44 cases of diphtheria, all of which were independent of any epidemic or contagious influences except in the southwest part of the county, where, in a circumscribed locality typhoid fever was apparently epidemic. I am of the opinion that quite a per cent. of what is regarded as typhoid fever is of the typho-malarial character. The cause of the epidemic of typhoid fever referred to, I think, is traceable to bad water and bad hygienic surroundings. Physicians throughout the county most cheerfully and promptly assisted and reported cases and practiced isolation and disinfection efficiently and to good purpose. Very respectfully yours,

I. G. SIMS,
Secretary.

JEFFERSON COUNTY.

MADISON, IND., October 31, 1887.

C. N. Metcalf, M. D.:

DEAR DOCTOR—Early in the spring I visited the County Asylum for the Poor. My visit was entirely unexpected, hence I found everything moving in its usual groove. I made a careful inspection of buildings and grounds, and found everything clean and tidy, and the inmates as happy and contented as could be expected, showing that the Superintendent and his wife take an interest in the welfare and happiness of those in their charge. The only complaint I heard from either Superintendent or inmates was on account of alleged negligence of the medical attendant.

The building is not well adapted to the purpose, neither is it well situated. The building is of stone, two stories high, surrounding and fronting on a square court. It is located in a deep, narrow valley. At the time of my official visit the building was much in need of repairs, but has since been re-roofed and otherwise improved.

Both spring and cistern water are used, the spring being situated at a considerable distance from any building and across a ditch or drain from them.

The health of the inmates has been good, the class of people considered. The sanitary condition of the jail is bad, the female department, and also the cells, being without water closets, and the pipe from the closet in the main prison being without traps. It is also badly ventilated. The jail is well kept and inmates well cared for, as far as can be with the unsanitary condition of the building.

Some months ago I presented a written communication to the County Commissioners, recommending certain improvements and urging upon them the importance of action, but the matter was deferred to a "more convenient season." I have a faint hope that it will claim their attention ere long.

The city of Madison is built upon a bed of gravel deposited there when the earth was younger than it is now. The city is drained on one side by the Ohio River, and on the other by a creek, so that there is no stagnant water or damp cellars. There are no wells, the water supply being obtained from cisterns and the river. Sanitary regulations are fairly well executed.

Dipththeria, scarlatina and typhoid fever were reported during the year, but only sporadically, or infecting a family, perhaps. Isolation and disinfection are practiced. The general sanitary condition of our county and the health of our people is good.

W. A. McCoy, M. D.,
Health Officer Jefferson County.

JENNINGS COUNTY.

North Vernon, Ind, October 31, 1887.

Dr. Metcalf:

Dear Sir—In reply to your circular, will say there were twenty cases of typhoid fever reported, fourteen deaths occurring. There was one case of scarlatina reported and one death. There were eight cases of diphtheria reported; deaths, one. Three cases of cerebro-spinal meningitis were reported, one death occurring. During the months of July and August we had quite an epidemic of dysentery, four-fifths of the cases being in one locality, and among those families that lived near the banks of Muscatatuck Creek. Our county is in a better sanitary condition than for many years. The people are fast seeing the benefits of being careful and watching after the condition of their premises. We have had no small-pox cases for several years.

Very respectfully yours,
Charles H. Green,
Secretary Jennings County Board of Health.

LAGRANGE COUNTY.

Oct. 31, 1887.

To the Secretary State Board of Health:

During the year just closed there have been two epidemics in this county, one of measles and one of whooping cough, these prevailing simultaneously, beginning early in February and continuing until the middle of April. Of measles there were reported 351 cases. These, I believe, were very fully and promptly reported, the physicians as a rule taking a great deal of pains to report not only their own, but also those cases where no medical aid was called; heads of families also frequently making reports. Cases of whooping cough were reported only in a very few instances, it not being understood that it was required. Now the physicians are so instructed that should another epidemic occur it would be fully reported. There were no fatal cases of measles, either directly or indirectly, from the sequela.

As a rule, physicians were prompt in carrying out the rules and regulations of the State Board of Health as to isolation and disinfection. During this time the schools were not closed, but children from infected families were excluded until danger was past.

There was an epidemic of scarlet fever lapping over from the previous year, but this ceased in the latter months of winter, the last case occurring in February of the present year. None of the later cases were fatal, though there were a few fatal cases during the epidemic. During its prevalence our physicians were prompt in reporting their cases and active in isolating them, and using every precaution to prevent its spread, and directing the proper disinfection of premises, bedding, clothing, etc., on convalescence; and the people were equally prompt in responding to these directions. Indeed, I am under great obligations to the medical men of our county for the hearty and earnest co-operation in the endeavor to stamp out the epidemic. The fact that there has not been a case in the county for a period of nine months is pretty good evidence of success, as for several years previous there had been frequent outbreaks—sporadic cases occurring here and there in different sections of the county.

There has been no case of small-pox in the county for many years. Neither has there been a general prevalence of diphtheria for several years, there being only an occasional case; of some of these there is doubt as to their true character. But three cases are reported for the present year; that these were genuine there is no question; the cause in each instance was local in origin. One death each is reported as resulting from diphtheria and whooping cough. No cerebro-spinal fever the past year. During the last two or three months typhoid fever has made its appearance in several widely separated localities. In the cases investigated I have found the premises filthy, wells foul, outhouses full to overflowing, with no means being taken for cleaning and disinfecting the same. As a rule, the occupants and proprietors have cheerfully and promptly complied with directions for remedying the foul conditions surrounding the sick. I have been compelled to begin prosecution in but a single case.

I am persuaded many births are not reported by householders when they occur, where no physician has been in attendance, though the people are coming to a better understanding of their duty in the matter.

The sanitary condition of the village of Lagrange has been materially improved during the year, the alleys having been cleaned of rubbish and garbage. The streets are clean, the main business street being cleaned weekly. Many outhouses have been thoroughly cleaned and others frequently disinfected; pig-sties put in proper condition or wholly done away with. There is less disposition to make the streets and alleys the receptacle of garbage and rubbish. Early in the spring we secured the passage of an ordinance by the Board of Trustees, providing for the removal of all garbage outside the corporate limits, by contract. So far there has been no contract made, but through the suggestions then made, and the discussions provoked thereby, many families are procuring their frequent removal.

EDWARD G. WHITE, M. D.,
Secretary Board of Health for Lagrange County.

LAWRENCE COUNTY.

BEDFORD, IND., October 31, 1887.

C. N. Metcalf, M. D., Indianapolis, Indiana:

DEAR SIR—In answer to yours of the 6th ult., will say that I can not answer as regards the sanitary condition of this county for all of the year ending September 30, 1887, as I have only been Secretary since January 1, 1887. There have been no epidemics of any kind during my service. There has been no cases of small-pox, diphtheria; six cases of typhoid fever, three of scarlatina, and four cerebro-spinal meningitis. The ordinary methods were used in treating these cases as far as I know. Isolation and disinfection were not practiced to any great extent, and, as far as I can learn, all cases were reported promptly. I find I have trouble in getting physicians to report promptly on births and deaths. They report sometimes, but not in time for quarterly reports.

Respectfully,

JAMES J. JOHNSON, M. D.,
Secretary Board of Health of Lawrence County.

MARION COUNTY.

C. N. Metcalf, M. D., Secretary Indiana State Board of Health:

DEAR SIR—In accordance with the circular issued by you, I herewith make my statement in reference to the sanitary condition of Marion County, during the year ending September 30, 1887. We can not point to a time in which the general health was better, than in the year just closed. The intense heat of the summer caused more than the usual number of diseases usually incident to the season, in the city, but I believe that under the eternal vigilence and strict sanitary scrutiny of our City Health Officer, S. E. Earp, M. D., that we escaped more serious trouble.

The whole number of deaths reported to us from our county for the year was, 2,170; which, by comparing figures, shows an increase of about 300 over last year. Deaths reported from zymotic diseases, 551. Of these 76 were from diphtheria, 72 from typhoid fever, and 51 from measles. We are quite sure that in some cases where it was reported as typhoid, when it was typho-malarial fever.

The following letter from W. B. Flick to me, and in response to my inquiry regarding the sanitary report of our County Schools, speaks for itself:

"The school-houses are generally built with reference to sanitary laws, and, therefore, provision is made for ventilation as well as warmth, each room is furnished with a good thermometer to regulate the temperature. The surroundings are also carefully looked after. The lots are generally underdrained, and the outbuildings are comfortable and well kept. The health of the children, so far this year, has been remarkably good—no epidemic of any kind having prevailed in any of the county schools. A few of the teachers have had typhoid fever, but that has all now disappeared. The teachers are required, at least once a week, to give talks on the laws of health, pertaining to the several organs of the body. They are giving to all grades of pupils in the regular classes in physiology the subject of hygiene, which is made quite prominent. Special precaution is taken in bad weather to see that the children are properly clad, and they are not permitted to expose themselves unnecessarily while at school. I can say that the schools, with regard to the matter of health, are in a very satisfactory condition.

"W. B. FLICK,
"*County Superintendent.*"

As a result of our efforts to secure a more nearly true report of the number of deaths occurring within the year, we have been able to record seventeen to the thousand, and we hope in another year to come still nearer to the true number. It may not be out of place to include in this report a word as to our plan of work. At the beginning of the year, during my two years as Secretary of the Board, we have sent personal letters to each physician, *i. e.*, those outside city limits, urging upon them the necessity of reporting all cases within their practice, and have supplied each with blanks for reporting. There have been a few cases wherein physicians have failed to comply with the law in registering. We have written them special letters calling attention to their being liable to prosecution.

In closing, there is another matter in which we have seen improvement, which was greatly needed, viz., the manner of filling out blanks which were to be recorded. Some physicians, particularly those in the city, have had a very careless way of writing them, and so indistinct as hardly to be deciphered, often failing to answer the most important questions. Our method is to return those to the sender, with a request to answer the questions, each one being deemed of importance by the State Board of Health. How can a true record be made of such carelessly written returns? The ministers and justices of peace who performed the marriage ceremonies are equally derelict, in many cases failing entirely to put the names of the contracting parties, often the name of the person officiating, and more often the date. We caused a notice of this failure in making proper returns placed in our city papers. And so with a little effort we have been enabled to see good results, and it is our desire, as time goes on, to have Marion County not only stand in the front ranks for true sanitary work, but that its records be not a travesty on the word, but that we shall not be ashamed to have our books compared with any from any Board of Health in our noble State.

M. H. FIELD, M. D.,
Secretary Marion County Board of Health.

MONTGOMERY COUNTY.

CRAWFORDSVILLE, IND., October 31, 1887.

During the year ending September 30, 1887, there has been only one case of typhoid fever reported. The death returns show that there have been eleven (11) deaths from this disease, and one (1) from typho-malarial fever, and one (1) from typhoid pneumonia. There have been eighteen (18) cases of scarlatina reported; no doubt many cases of this disease were not reported. Cases of diphtheria reported, eighteen (18); doubtless some of these were not diphtheria, but a simple pharyngitis with some pultaceous deposit. Some cases reported as diphtheria I have investigated and found that they were only sick for from twenty-four (24) to forty-eight (48) hours, which would make the diagnosis doubtful to say the least.

There have been two (2) cases of cerebro-spinal meningitis, each reported only by the death blanks. One (1) case of cerebral meningitis is also reported only as a death; this probably was also a cerebro-spinal case.

There has been no case of small-pox in the county for several years.

Isolation in the case of scarlatina and diphtheria was enforced as much as possible. I am not able to state the causes of the outbreaks. It has never amounted to an epidemic in the county, and yet for the past two or three years the county has not been entirely free from these diseases, occasional cases occurring during this time.

There has been considerable trouble in getting the physicians to make prompt returns of births and deaths, as well as contagious diseases.

The general sanitary condition of the county has been good. No epidemics of any kind have prevailed. The attention of the State Board was called to the condition of the county asylum, resulting in an inspection of the same by the members of State Board, and a condemnation of the building in consequence. The Board of Commissioners promise a new and modern building next year. I have been called on several times during the year to abate nuisances. A written notification to the parties in fault has in each instance produced a prompt abatement of same.

Respectfully,

E. H. COWAN, M. D.,

Secretary Montgomery County Board of Health.

POSEY COUNTY.

MT. VERNON, IND., October 31, 1887.

Dr. C. N. Metcalf:

DEAR DOCTOR—There have been reported the following number of contagious diseases in Posey County, for the year ending September 30, 1887:

Measles	84 cases.
Scarlatina	19 "
Fever, typhoid	6 "
Diphtheria	2 "

As to the mortality, I respectfully refer you to my quarterly death reports.

Sickness has prevailed to a great extent (excepting the months of January and September), throughout the entire year.

There being an extensive epidemic of dysentery through June, July, August and September, there being some cases in October and November.

There has been some cerebro-spinal meningitis, probably ten cases, all unreported, and all fatal, except one infant. Typhoid fever has prevailed to a considerable extent, but principally since September 30.

Most all cases have been managed according to the rules adopted by the State Health Board.

The reports of contagious diseases are very incomplete, deaths are not reported fully, and in trying to compel proper returns of deaths and dangerous diseases, legal authorities and juries have not given the law the support that should be expected of them, though in some cases they sustain the law and exact fine of the transgressors.

Births are well reported, with but few exceptions, and are easier watched than the other reports.

I think there is a gradual improvement in the interest taken by the people at large in the health laws. Very truly yours,

D. C. RAMSEY, M. D.,
Health Officer of Posey County.

PULASKI COUNTY.

WINAMAC, October 31, 1887.

C. N. Metcalf, Secretary State Board of Health:

DEAR SIR—In answer to your circular letter of the 6th inst., concerning the sanitary condition of this county for the year ending September 30, 1887, would say that it is good. There have been a few cases each of typhoid fever and scarlatina. None of them have prevailed as an epidemic, but have been confined to the immediate locality in which they occurred. Only ordinary means used to prevent its spread. Yours truly,

J. J. THOMAS, M. D.,
Secretary.

RANDOLPH COUNTY.

WINCHESTER, IND., October 31, 1887.

C. N. Metcalf, M. D., Secretary Indiana State Board of Health:

DEAR SIR—Health in Randolph County for the year ending September 30, 1887, has been fairly good. No case of small-pox has occurred in the county during the year. Twenty-seven cases of typhoid fever were reported, with fourteen deaths, which would seem to be a very large death rate. But I am well satisfied that not more than one-fourth of the cases were reported owing to the fact that the State Board of Health only requires the malignant cases reported. If a case dies, or should be a long time in recovering, it is reported as typhoid; should the case be mild and recover within the usual time it is past over as typho-malarial. (It occurs to me that the State Board of Health should require all cases diagnosed as typhoid fever to be reported, regardless of the severity of the attack and duration of the disease. The physicians would then be more prompt in reporting every case than under the present rule. It would then be much easier for the County Health Officer to enforce the rule. As it is, whenever the rule is attempted to be enforced the physicians excuse themselves from the fact that the State Board only requires the malignant cases reported and that they did not consider their cases malignant.)

Typhoid fever has not been confined to any particular locality, but distributed all over the county. Probably more cases occurred in the southwestern part, in the vicinity of Losantville than in any other part. The cases were generally developed sporadically, and not dependent on any known source of contact, contagion or infection, but supposed to be in consequence of the extreme dry weather and low stage of the wells of drinking water. In an experience of twenty-eight years of practice in this county I have observed that we have had the most typhoid fever during extremely dry seasons, and next to the dry seasons in the extremely wet ones. However, a few cases occur every year.

In the management of the cases disinfection of the stools, isolation when practicable, ventilation and cleanliness has generally been carried out by the physicians in charge.

Whooping-cough made its appearance during the spring, but by prompt flagging and quarantine, was limited to ten cases, and no deaths. We have had a few isolated cases of diphtheria, with two deaths.

During the holidays a hotel clerk in Winchester contracted measles from some unknown source. He attended to business, was about town, in stores, at depot and public gatherings for three days prior to the eruption making its appearance, and to the time it was known that he was suffering from measles. The result of which was that measles were spread into all parts of the county, and five hundred and thirty-five cases were reported. Fortunately only two deaths occurred in consequence of same. There were two deaths from typho-malarial fever, and four deaths from malaria. During the last ten years malaria has almost entirely disappeared from the county, owing to the county being cleared up, ditched and underdrained. Twenty-five years ago it almost impoverished physicians to furnish their cases with quinine; now they have little use for it.

The people of this county are becoming more interested and educated to the importance of the prevention of disease, and cheerfully comply with the requirements of and suggestions of the various local boards of health and of their physicians.

The physicians, as a rule, with but few exceptions, cheerfully contribute to assist the various local boards in forwarding any needed sanitary measures. The Randolph County Medical Society passed a rule making it obligatory and a duty of every member to be prompt in making reports, in carrying out all others of the State, county, or local boards of health, and also to report to the health officers all known violations of the same, which has contributed much in the sanitary work of this county. Where the physicians of a county conscientiously and cheerfully do their duty it is an easy matter for the county health officer to carry out needed reforms, and to interest the people in sanitary measures.

Yours very respectfully,
J. T. Chenoweth, M. D.,
Secretary Randolph Co. B'd Health.

RIPLEY COUNTY.

Versailles, Ind., October 31, 1887.

Dr. C. N. Metcalf, Secretary State Board of Health:

The following cases were reported from September 30, 1886, to September 30, 1887:

Typhoid fever	18 cases.
Scarlatina	11 cases.
Diphtheria	8 cases.
Cerebro-spinal meningitis	2 cases.
Small-pox	None.

I think the typhoid cases originated from bad water from vaults and excrement getting in the water supply. I traced several cases to the water, where typhoid cases had been, and had been used by them. The other diseases I could not find out the cause of the outbreak.

Isolation and disinfection were not practiced.

JAS. ANDERSON, M. D.,
Secretary Ripley County Board of Health.

SCOTT COUNTY.

SCOTTSBURGH, IND., October 31, 1887.

C. N. Metcalf, M. D.:

DEAR SIR—Replying to your circular, I would say there has been a great prevalence of typhoid fever, amounting to an epidemic, in this county during the past summer. Only the general cause of low water supply can be given. Little disinfection, beyond a careful attention to cleanliness, has been practiced. Isolation has been practiced to some extent. The rate of mortality has been very low, and the attitude of the disease has at no time been alarming. Small-pox and scarlatina are unknown, and diphtheria and cerebro-spinal meningitis almost so.

Very respectfully,

JNO. M. WATSON, M. D.,
Secretary Scott County Board.

SPENCER COUNTY.

ROCKPORT, IND., October 31, 1887.

C. N. Metcalf, M. D., Sec'y State Board of Health:

DEAR DOCTOR—In response to your inquiry relating to contagious and infectious diseases which have prevailed in Spencer County for the year ending September 30, 1887, would state that only sporadic cases of either class have been reported during this period.

The following is a list of diseases as appears upon the records of my office for the year above named, viz.: Typhoid fever, 8; scarlatina, 10; diphtheria, 7, and cerebro-spinal fever, 1.

My predecessor did not require any reports of typhoid fever except death reports, unless an epidemic was threatened; consequently this report embraces the deaths resulting from typhoid fever only.

Small-pox.—We have no report of the existence of this disease anywhere in our county during the year.

Scarlatina.—Ten cases reported, with one death. They were located in the northern portion of the county, and source of contagion unknown.

Diphtheria.—Seven cases reported, with one death. All occurred in one locality during the first quarter of current year.

Cerebro-spinal fever.—No death reported.

Isolation and disinfection have been the principal measures of resort used in the foregoing cases. Our physicians have been uniformly prompt and cheerful in reporting and assisting the local Boards of Health in preventing the spread of all diseases supposed to be dangerous to the public health.

I regard the sanitary condition of our county good, except our County Poor Asylum, which has been condemned by the State and local Boards of Health. We are promised that the evil will be removed at the earliest practical moment.

Yours respectfully,

F. M. HACKLEMAN, M. D.,

Sec'y Spencer County Board of Health.

ST. JOSEPH COUNTY.

SOUTH BEND, IND., October 31, 1887.

C. N. Metcalf, M. D., Secretary of Indiana State Board of Health, Indianapolis, Ind.:

DEAR SIR—In compliance with your request of recent date, I herewith send you a report of the number of cases of contagious diseases reported in St. Joseph County during the year ending September 30, 1887: Of scarlet fever, twelve cases were reported—in October, 1886, there were two cases; in November, three; December, one; February, 1887, there were five, and in April one, with two deaths. Of diphtheria, forty cases were reported—in October, 1886, there was one case; November, seven; December, thirty; in 1887, there was one in March and one in April, with eight deaths. Of typhoid fever, there were only nine cases, as follows: October, 1886, one; November, one; December, two; 1887, March, one; April, one; September, three, with five deaths, and one case of cerebro-spinal meningitis in July, 1887, and one death. During the latter part of November and December, 1886, we had an epidemic of diphtheria in Madison Township, St. Joseph County, during which thirty-four cases of diphtheria were reported. This township is situated in the southeast corner of the county, and the greater portion of it is low and heavily timbered. There are also numerous little marshes and low places which are now mostly quite well drained, but which are overflowed when we have heavy rains. In the latter part of September we had a very hard hail storm here which was followed by heavy rains, and these low places stood under water for several days. Again, in October and November, they were overflowed, and when the water went down these places were left covered with a heavy growth of vegetation, which, when I was called out there to take some steps to, if possible, prevent the spread of this terrible malady, was in a state of decomposition, from which was arising a very bad odor. We had all the schools in the township closed for about four weeks, quarantined the affected families as best we could, and had them use freely of such disinfectants as chloride of lime and carbolic acid, also prohibited public funerals. I think there can be no doubt that many of the cases reported as diphtheria were only aggravated cases of pharyngitis or tonsilitis, as there were only six deaths reported from the thirty-four cases reported, which I think a low mortality rate in true diphtheria. I think the present sanitary condition of St. Joseph County is good. The city board here and the local boards throughout the county are doing good work.

FRANK M. SAWYER, M. D.,

Secretary of St. Joseph County Board of Health.

SWITZERLAND COUNTY.

VEVAY, IND., October 31, 1887.

Switzerland County is one of the healthiest in the State. Much of the land is hilly and there are no swamps. In the bottoms along the Ohio River at certain seasons we have malarial fever, but are probably as exempt from these maladies as any other part of the State. I give the number of cases reported for the year ending September 30, 1887, of each of the following diseases, namely:

Typhoid fever	6
Scarlet fever	1
Diphtheria	23
Cerebro-spinal meningitis	3
Small-pox	0

No doubt several cases of each of these diseases occurred, except small-pox, which the attending physician failed to report, but there has been no epidemic of any kind in this county during the past year. Contagious diseases have been isolated when practicable and disinfectants used freely, especially fresh air, the best of all. Physicians have usually reported contagious diseases to the health officers promptly, but not in every case. The sanitary condition of the county jail has been very bad, but by cleaning out the privy vault and making some changes, it has been improved, but it is not yet as good as could be desired. The ventilation is very bad. County asylum for the poor is kept clean, and the food furnished to the inmates is good. It is greatly to be regretted that the physicians of this county will not report all cases of deaths, births and contagious diseases. The law ought to be amended so as to pay them ten cents for each case reported, and assess a fine of ten dollars for each case they fail to report, allowing the prosecuting attorney one-half of the fine. If we had a law of this kind, our statistics would be complete and of great value.

ALBERT G. CRAIG, M. D.,
Secretary Switzerland County Board of Health.

TIPPECANOE COUNTY.

LAFAYETTE, October 31, 1887.

Dr. C. N. Metcalf:

DEAR DOCTOR—In reply to your letter of recent date requesting statistics of contagious and infectious diseases in Tippecanoe County during the past year, I respectfully submit the following report:

There have been seventeen cases of typhoid and typho-malarial reported during the current year. Of this number four only were well-defined cases of enteric fever. In three of these the disease was of sporadic origin, and in the remaining one it was contracted while nursing a severe and fatal attack of this disease. In none of the cases cited was there any evidence of water contamination. Of the thirteen cases of typho-malarial fever reported six were from the city and seven from the northern portions of the county. As regards this outbreak of typho-malarial fever there exists a great difference of opinion, among the physicians throughout the county, as regards the nature of the disease.

Some consider it a mild form of typhoid, while others look upon it as a low form of malaria, having nothing in common with typhoid save that it is a remittent fever of an asthenic type. I am rather inclined to support the former opinion, and think it would be far safer for the community if all cases of this disease were considered and treated as mild forms of true typhoid. It may be claimed that the low range of fever temperature, together with a conspicuous absence of such symptoms as abdominal tenderness, tympanites and diarrhœa, will effectually separate the two diseases. This is true, but I can readily understand how the materies morbi of typhoid fever can be taken into the system in such small quantities or in such a state of dilution as only to cause a slight fever, with probably some slight pathological changes in the glandular tissue of the ileum, giving rise to temporary swelling, which rapidly disappears without disturbing the functions of the bowels. I think it would be a wise rule to regard all cases of typho-malarial fever with suspicion when there are cases of true typhoid in the neighborhood.

Scarlet Fever.—Sixteen cases have been reported, with one death. Eleven of these cases were returned from the county and five from the city. The attacks were as a rule mild. The greatest number reported for any one month were eight, for the month of December.

Returns from thirty cases of measles have been received. The county furnished nineteen cases and the city eleven. No deaths.

Diphtheria.—Four cases reported, all being in the city. In all instances the disease occurred in children under seven years. No deaths. In three cases the disease was sporadic, and in the fourth instance it was contracted by direct contact from another member of the family. In the northern part of the county, in the neighborhood of Buck Creek, there has been quite an epidemic of sore throat, but the physicians have been unable to associate the disease in any way with diphtheria. In conclusion, I will say that the present state of health throughout the county is good, and if the few cases of typhoid fever which have been recently visited upon us are not the forerunners of an epidemic of that disease I think we will continue to enjoy as good health as the rest of our neighbors.

Yours truly, RICHARD B. WETHERILL, M. D.

WARREN COUNTY.

WILLIAMSPORT, IND., October 31, 1887.

The sanitary condition of the county is good. The land in the county is generally tiled and well drained.

During the later part of the winter of 1887, we had in Williamsport and vicinity, an epidemic of both measles and whooping cough, occurring at the same time, and the two being complicated together in many instances in the same patient, proved fatal in a number of cases.

During the fall months we had more typhoid fever than usual, being most prevalent in the western part of the county, where the prairie is rather low and wet and least drained. Yet there was some cases reported from all parts of the county. I experienced a great difficulty in getting many of the physicians to send in full reports of births and deaths. I am satisfied that a great many cases are not reported at all. A great portion of the practice of the county is done by physicians living outside of the county, and along the western side by the Illinois doctors, and I have great difficulty in getting them to report their cases.

A. V. Moore, M. D.,
Health Officer Warren County.

CITY OF INDIANAPOLIS.

The following paper is from the pen of Dr. S. E. Earp, the efficient Secretary of the Indianapolis Board of Health. I take pleasure in calling especial attention to this article because it will amply pay those interested to give it a careful perusal. The plan of enforcing the laws in this city, which has been so effective under the administration of the present Secretary, is worthy of a trial elsewhere:

The following partial analysis of sanitary work dates from January 1, which will include three quarters of the year only, in order to be ready for the issue of the report of the State Board.

The work accomplished by the Indianapolis Board of Health has not been perfect since its organization, yet its improvement and progress is so evident that it is worthy of especial notice. The physicians have coöperated in a great measure with the Board, thereby furnishing a means by which the sanitary officers could hold in subjection the spread of epidemic diseases. Heretofore the midwives have made incomplete birth returns, and this difficulty has also been obviated. The inspection of meat has been thorough under the direction of William K. Thompson, and the laws have been rigidly enforced. While the radical methods adopted have made the duties of the Secretary and officer Thompson at times extremely unpleasant, yet no other course could be effectual. At times, cattle in transit, or rather consigned to merchants who desired to ship them to other parts, when the stringent measures of the Health Board were fully made known, such requests were considered trivial in their nature, believing that those who would ship diseased stock to this market deserve no consideration whatever. During the past eight months twenty-four cattle have been shot by the officer, which seemed heroic treatment, but when, after a moment's reflection, we appreciate that some of these cattle known as "big jaws," have diseased surfaces, modulated in appearance, five to ten inches in diameter, some of which reach the stage of suppuration and contain cancerous matter, while others have disease germs, or fungi, indicating a disease denominated Actinomyces, which, without a doubt, can inoculate the human subject; therefore, with these facts before us, there is but one remedy, and that is death to such diseased animals wherever found. A strict supervision is kept over the markets, slaughter houses and stock yards, and officer Thompson's visits to these places will probably reach from three to four thousand, the inspections twenty times that number, not including live stock. Whenever condemnations are made the material is destroyed in the presence of the officer. The annual report of the City Board of Health, for 1887, will be published early in 1888, and will show a complete report of the condemnations.

Officer Crone's inspections, including privies, vaults and buildings, will number about fifteen thousand, in addition to serving an approximate of thirty-five thousand notices.

When a notice to disinfect, etc., is served by the sanitary officer the following form is used, on the reverse side of which is printed a copy of the following ordinance:

In accordance with an ordinance passed by the Common Council and Board of Aldermen, December 2, 1878:

"Sec. 8. It shall be unlawful for any person in said city to fill or cover up with earth or other materials, any privy vault, water closet, or other receptacle of human excrements, without having first cleaned, removed, or conveyed away the contents of the same."

"Sec. 9. Any person violating the provisions of this ordinance shall be fined in any sum not exceeding fifty dollars, to which may be added the cost of prosecution."

No. . . . .

. . . . 188 .

Mr . . . . Agent,

No . . . . Street.

You are hereby notified to clean and disinfect your premises, yard, alley, sink, and clean privy vault to bottom, within ten days.

. . . . M. D.,
President.

. . . . M. D.,
Secretary.

Served by Officer . . . .

No . . . . . . OFFICE OF BOARD OF HEALTH.
Room No. 5, Court House Basement.

Indianapolis . . . . 188 .

Mr . . . . Agent,

No . . . . Street.

You are hereby notified to clean and disinfect your premises, yard, alley, sink, and clean privy vault to bottom. . . . .

. . . .

. . . . within ten days, as the same is injurious to public health.

By order of the Board of Health.

Respectfully,
T. N. Bryan, M. D., Pres't.
S. E. Earp, M. D., Sec'y.

Served by Officer . . . .

The officers also visit all houses where there exists any contagious or infectious disease, card such houses and remove the card when all danger from the contagion has passed. At these visits sanitary orders are issued and enforced. When we ascertain that during the first eight months of the year 1887, taking into consideration only the three diseases, diphtheria, scarlet fever and measles, that the reports amount to thirty-three thousand and forty-eight, the amount of work in this channel can be easily calculated.

I have arranged a card of instructions, which the Health Board has adopted, to present to each family when the officer cards the residence. This will furnish some information upon a subject of which the people know but little. This will become a law after it passes the Council and Board of Aldermen.

The following is a copy:

INDIANAPOLIS
BOARD OF HEALTH.

MEMBERS.

T. N. Bryan, M. D.,	S. E. Earp, M. D.,
J. B. Long, M. D.,	N. R. Ruckle.

SANITARY OFFICERS.

Len. Crane, W. K. Thompson, E. C. Hedden.

RULES.

DANGER FLAGS.

When flags of warning are posted on buildings, indicating the existence of small-pox, cholera, diphtheria, scarlet fever, measles, or any other infectious or contagious disease, they must remain at least two weeks, and longer if necessary, to avoid the contagion of the disease, except measles, which must remain at least one week. Flags must not be removed without the authority of the health officers.

The person affected with the disease must be effectually isolated, and the children of the household must be prohibited from attending any school.

SMALL-POX.

When small-pox exists all unvaccinated persons must be vaccinated with non-humanized virus immediately, and all persons who have been exposed to the disease, although vaccinnated, must be re-vaccinated.

BURIALS.

In case of death from any contagious or infectious disease, the body must be placed in a coffin as soon as possible, securely closed and not opened again. The burial must take place within eighteen hours, or earlier if those in charge are so notified by the health officers. The funeral must be strictly private.

DISINFECTANTS.

For disinfecting discharges, vomiting matter, etc.:

Dissolve four ounces of chloride of lime in one gallon of soft water.

For disinfecting clothing:

Immerse in boiling water for half an hour, or destroy by fire.

The room in which there has been a case of infectious or contagious disease must be disinfected, and all bedding, clothing and furniture disinfected or destroyed. Close the room tightly, fumigate with sulphureous acid gas produced by burning sulphur.

Bichloride of mercury solution:

Four ounces of bichloride of mercury to the gallon of water, and add one drachm of permanganate of potassium to each gallon. One ounce of this solution to one gallon of water will be suitable to disinfect clothing, and the proportion of four ounces to the gallon to wash walls, ceilings and wood work. The full strength may be used for discharges and vomited matters, etc. It is poisonous and must not come in contact with metal.

The officers will call for this card.

Burial and shipping permits are made out by the Clerk of the Health Board on application of any one in charge of the corpse, and failure to do so by those in charge is followed by prosecution, according to following form to which is attached the printed ordinance:

EXTRACT FROM ORDINANCE ORDAINED AUGUST 27, 1874.

SEC. 5. * * * It shall be unlawful for any undertaker or other person to remove from the city or inter within the city, the body of any person whatsoever, without having first procured from the Board of Health a permit, as required in Section 4 of the aforesaid ordinance, passed August 1, 1872. Any persons violating the provisions hereof, shall, upon conviction, be fined in any sum not exceeding one hundred dollars.

SHIPPING PERMIT.

OFFICE OF INDIANAPOLIS BOARD OF HEALTH, ROOM 5, BASEMENT COURT HOUSE.

INDIANAPOLIS, ... 188 .

The proper death certificate having been filed in this office, permission is hereby granted M . . . . to ship from Indianapolis to . . . . the body of . . . . Age . . . Sex . . . . Color . . . . Nativity . . . . Single, Married, Widow, Widower.

(Cross out words not required.)

Cause of death . . . .

Date of death . . . .

S. E. EARP, M. D.,
Secretary Board of Health.

This permit must be placed in plain view on outside of shipping case.

EXTRACT FROM ORDINANCE ORDAINED AUGUST 27, 1874.

SEC. 5. * * * It shall be unlawful for any undertaker or other person to remove from the city or inter within the city, the body of any person whatsoever, without having first procured from the Board of Health a permit, as required in Section 4 of the aforesaid ordinance, passed August 1, 1872. Any person violating the provisions hereof, shall, upon conviction, be fined in any sum not exceeding one hundred dollars.

BURIAL PERMIT.

OFFICE OF
INDIANAPOLIS BOARD OF HEALTH,
Room 5, Basement Court House.

INDIANAPOLIS, ... 188 .

The proper DEATH CERTIFICATE having been filed in this office, permission is hereby granted

M . . . .

to bury the body of

. . . .

Age . . . . Sex . . . . Color . . . . Nativity . . . . .

Residence . . . .

Single, Married, Widow, Widower,

(Cross out words not required.)

Cause of Death . . . .

Date of Death . . . .

S. E. EARP, M. D.,
Secretary Board of Health.

EXTRACT FROM ORDINANCE ORDAINED AUGUST 27, 1874.

SECTION 5. * * * * It shall be unlawful for any undertaker or other person to remove from the city or inter within the city, the body of any person whatsoever, without having first procured from the Board of Health a permit, as required in Section 4, of the aforesaid ordinance, passed August 1, 1872. Any person violating the provisions hereof, shall, upon conviction, be fined in any sum not exceeding one hundred dollars.

PROSECUTIONS.

The prosecutions, amounting to seventeen, are divided as follows:

For failing to bury a corpse within eighteen hours after death (diphtheria)	1
For holding public funeral where death was caused by diphtheria	1
Physicians failing to report contagious diseases within the time prescribed by law	6
Agents and owners of premises failing to clean up when ordered to do so	7
Peddler for using false measure	1
For hauling a dead animal in an uncovered wagon	1

DEATH RATE.

I am satisfied that the death-rate given out has been entirely too high, and the estimate on the population has been incorrect, especially when we observe that the estimate on the population of the city has been placed at 100,000 since 1883, with no increase. Of course, absolutely correct figures can not be produced between the taking of each census; yet, to obviate this as much as possible, I asked the assistance of Augustus Murphy, Secretary of the R. L. Polk & Co. Directory Company. He gave me as the estimate gleaned from the city of 1887, 117,500, and also kindly assisted me in preparing the ratio of each year from 1880. Here is a comparative table of mortality from 1873 to 1888:

Years.	*Population.*	*Deaths.*	*In* 1,000.
1873.	56,100	1,392	24.83
1874.	58,800	1,508	25.65
1875.	61,500	1,712	27.83
1876.	64,200	1,641	25.50
1877.	66,900	1,528	22.84
1878.	69,600	1,296	18.62
1879.	72,300	1,470	20.33
1880.	75,000	1,694	22.59
1881.	76,000	1,773	23.33
1882.	78,000	1,471	18.86
1883.	82,000	1,509	19.62
1884.	88,000	1,706	19.39
1885.	96,500	1,595	16.43
1886.	106,000	1,656	15.62
1887.	117,000	1,708	14.54

The death-rate of 1887 is 14.54 in 1,000. This is less than at any time since the organization of the Board of Health, and yet there has been an increase of population. The estimate excludes premature and still-births, as is the case with estimates with previous years.

MARRIAGES.

The whole number of marriages reported for the year ending September 30, 1887, is 18,073.

TABLE A.

MARRIAGES.

Showing the Total Number of Marriages, Arranged by Months, Color, Nationality for the Year Ending September 30, 1887.

COUNTIES.	Total.	1886.			1887.									COLOR.		NATIONALITY.					
		Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	White.	Colored.	American.		Foreign.		Not Reported.	
																Gr.	Br.	Gr.	Br.	Gr.	Br.
Adams	152	14	15	11	19	10	14	12	12	10	10	11	14	152	..	135	144	17	8	...	...
Allen	544	55	45	50	40	37	17	14	33	29	75	75	74	534	10	398	417	140	114	6	13
Bartholomew	187	15	9	23	15	11	20	12	20	20	14	14	14	185	2	178	180	8	6	1	1
Benton	89	12	4	8	13	11	8	4	7	2	3	9	8	87	2	67	74	12	6	10	9
Blackford	88	5	11	13	8	7	8	4	4	5	6	9	8	86	2	87	87	1	1	...	...
Boone	235	22	23	15	28	19	29	14	10	12	13	22	28	235	..	234	234	1	1	...	...
Brown	101	10	10	12	14	13	7	6	5	8	7	5	4	101	..	101	101	...	...	...	...
Carroll	164	19	15	8	9	15	27	15	5	11	13	15	12	164	..	162	164	2	...	...	...
Cass	269	24	22	29	33	28	30	24	12	16	20	15	16	261	8	212	217	53	48	4	4
Clark	396	21	14	25	38	38	32	38	36	24	46	38	46	395	1	396	396	...	...	...	...
Clay	210	7	21	13	17	17	19	20	23	18	18	15	22	207	3	179	180	31	30	...	...
Clinton	187	...	5	20	25	15	26	10	8	7	12	27	32	187	..	187	187	...	...	...	...
Crawford	154	20	26	20	12	9	22	12	9	5	8	3	8	154	..	148	151	2	...	4	3
Daviess	186	33	23	17	17	18	10	13	13	10	4	10	18	184	2	176	178	10	8	...	...
Dearborn	233	27	28	20	22	9	14	23	20	13	15	13	29	233	..	230	229	3	4	...	...
Decatur	151	19	12	13	15	13	9	10	14	7	9	10	20	149	2	148	151	3	...	...	...
Dekalb	197	20	19	27	19	25	12	10	17	14	6	10	18	197	..	188	191	9	6	...	...
Delaware	266	52	20	14	43	25	19	28	13	7	14	18	13	265	1	261	265	4	1	1	...
Dubois	146	13	22	9	10	11	7	10	25	14	9	8	8	146	..	129	139	17	6	...	1
Elkhart	318	30	27	32	21	31	42	25	15	22	23	20	30	317	1	243	260	67	48	8	10

TABLE A—Continued.

COUNTIES.	Total.	1886.			1887.									COLOR.		NATIONALTY.					
		Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	White.	Colored.	American.		Foreign.		Not Reported.	
																Gr.	Br.	Gr.	Br.	Gr.	Br.
Fayette	69	5	6	11	3	4	7	4	6	3	5	5	10	66	3	66	67	3	2	...	...
Floyd	214	40	11	16	42	6	5	26	10	8	18	17	15	201	13	190	190	23	16	1	8
Fountain	219	16	15	30	17	12	27	13	14	16	8	27	24	219	...	211	214	8	3		2
Franklin	169	27	17	17	11	14	15	10	21	10	8	8	11	169	...	150	160	19	9	...	...
Fulton	149	15	17	23	15	9	12	12	9	10	7	6	14	149	...	149	149	...	...	...	...
Gibson	238	16	24	21	16	15	15	38	19	18	14	19	23	226	12	226	234	11	3	1	1
Grant	239	33	20	24	46	14	14	14	11	12	27	12	12	236	3	237	238	2	1	...	...
Greene	138	12	17	8	12	14	14	12	11	15	13	10	...	138	...	132	134	5	3	1	1
Hamilton	201	26	26	16	28	14	9	24	10	9	18	11	10	199	2	199	198	1	...	1	3
Hancock	140	18	14	7	15	10	6	10	7	10	12	15	16	140	...	140	138	...	1	...	1
Harrison	163	11	13	19	10	13	4	12	18	14	18	13	18	158	5	161	163	2	...	...	...
Hendricks	159	17	9	19	15	16	8	21	5	4	11	18	16	158	1	154	158	4	1	1	...
Henry	216	21	15	11	25	15	23	20	16	18	12	23	17	211	5	213	211	1	1	2	4
Howard	218	23	20	31	10	12	17	25	6	20	16	17	21	218	...	215	216	2	1	1	1
Huntington	260	30	33	13	22	23	31	19	20	17	19	14	19	260	...	250	255	9	4	1	1
Jackson	242	32	15	13	30	22	17	27	24	10	13	14	25	240	2	230	238	12	3	...	1
Jasper	101	15	10	4	13	13	5	13	3	4	4	7	10	101	...	89	92	10	7	2	2
Jay	227	22	18	26	29	22	20	13	12	18	14	15	18	226	1	222	224	5	3	...	...
Jefferson	249	22	24	22	19	24	12	23	25	29	21	16	12	249	...	249	249	...	...	...	...
Jennings	144	9	13	21	8	16	18	9	10	8	11	9	12	140	4	136	142	8	2	...	...
Johnson	174	20	14	21	11	11	15	17	8	9	15	18	15	173	1	154	155	...	...	20	19
Knox	335	36	28	29	22	53	19	27	24	9	41	19	28	331	4	335	335	...	...	...	...
Kosciusko	269	18	26	34	29	26	32	28	15	13	11	13	24	269	...	269	269	...	...	...	...
Lagrange	114	16	14	9	10	3	4	13	11	5	10	8	11	114	...	108	107	5	3	1	4
Lake	163	9	10	17	10	10	12	12	12	19	16	12	14	163	...	106	105	55	55	2	3
Laporte	196	17	14	19	21	17	22	15	17	11	7	11	25	195	1	130	126	65	69	1	1
Lawrence	175	36	17	12	13	9	15	8	14	10	7	12	22	170	5	172	172	3	3	...	...
Madison	278	24	24	32	25	22	18	15	19	19	25	27	28	278	...	271	270	5	1	2	7
Marion	1,095	129	118	97	78	66	70	91	89	97	59	103	98	1,002	93	920	964	161	111	14	20
Marshall	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

Martin	145	12	9	19	14	9	11	8	18	10	8	12	15	145	. .	139	142	6	3	. . .	. . .
Miami	187	34	23	10	17	23	7	17	7	13	5	20	11	185	2	170	178	16	8	1	1
Monroe	139	13	12	14	11	15	8	21	2	5	6	16	16	138	1	137	139	2	. . .	. . .	. . .
Montgomery	263	42	29	28	22	22	22	26	11	16	11	12	22	256	7	199	201	2	. . .	62	62
Morgan	196	20	25	30	10	12	28	8	5	14	12	12	20	196	. .	195	196	1		. . .	. .
Newton	49	6	3	2	2	1	12	4	5	3	4	3	4	49	. .	39	40	6	7	4	2
Noble	156	20	28	13	8	16	14	6	8	10	10	10	13	156	. .	143	151	8	3	5	2
Ohio	49	4	7	4	1	6	7	5	1	3	5	4	2	48	1	48	48	1	1	. . .	. . .
Orange	127	9	14	9	11	9	12	10	7	9	12	8	17	126	1	127	127	. . .	. . .	. . .	. . .
Owen	126	8	28	9	8	10	10	13	9	10	4	8	9	126	. .	121	125	2	. . .	3	1
Parke	182	27	12	16	25	10	24	8	12	10	6	15	17	176	6	178	181	4	1	. . .	. . .
Perry	128	. . .	. . .	. . .	13	10	16	22	19	16	13	8	11	126	2	118	122	9	5	1	0
Pike	204	21	9	21	17	9	23	29	14	16	13	12	20	204	. .	170	171	14	13	20	21
Porter	126	16	11	13	14	9	6	4	12	12	8	12	9	126	. .	92	97	32	26	2	3
Posey	246	21	18	21	29	29	15	17	8	26	20	15	27	225	21	232	239	13	7	1	. . .
Pulaski	69	6	9	3	10	13	5	5	3	2	3	4	6	69	. .	62	64	5	3	2	2
Putnam	202	41	20	12	28	11	14	12	12	7	7	18	20	195	7	196	197	6	4	. . .	1
Randolph	297	27	33	29	49	16	28	30	21	13	21	18	12	287	10	294	296	2	. . .	1	1
Ripley	176	22	13	12	22	13	5	8	13	23	16	13	16	175	1	129	125	47	51	. . .	. . .
Rush	164	23	6	11	11	12	8	8	5	10	8	30	32	158	6	158	161	1	1	5	2
Scott	59	5	1	7	6	2	6	7	3	13	1	4	4	59	. .	58	58	1	1	. . .	. . .
Shelby	190	7	13	14	35	13	21	31	13	2	15	20	6	190	. .	173	173	4	. . .	13	17
Spencer	238	24	26	19	28	16	27	17	26	8	13	14	20	217	21	228	235	5	1	5	2
Starke	71	5	8	7	11	2	7	5	5	4	5	4	8	71	. .	58	56	12	14	1	1
Steuben	94	18	6	15	5	9	8	3	4	9	2	7	8	94	. .	93	94	1	. . .	. . .	. . .
St. Joseph	249	36	32	22	20	15	11	18	16	11	26	27	15	249	. .	164	172	70	61	15	16
Sullivan	192	16	20	27	11	8	19	18	10	12	15	18	18	192	. .	181	183	11	9	. . .	. . .
Switzerland	139	22	15	18	3	13	10	13	5	9	9	9	13	134	5	137	138	2	. . .	. . .	1
Tippecanoe	322	36	33	25	27	26	18	29	25	19	25	29	30	317	5	248	237	66	67	8	18
Tipton	173	23	10	16	16	7	24	7	8	11	11	12	28	173	. .	157	157	3	1	13	15
Union	58	6	6	8	5	3	6	2	9	2	3	1	7	56	2	58	58	. . .	. . .	. . .	
Vanderburgh	391	50	45	42	36	42	24	32	37	31	18	21	13	357	34	310	334	71	45	10	12
Vermillion	93	14	7	10	16	6	13	7	2	1	7	7	3	91	2	89	90	2	1	2	2
Vigo	575	92	40	26	30	46	20	126	35	30	63	36	31	543	32	523	546	51	28	1	1
Wabash	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. .	. .	. . .	. . .	. . .	. . .	. . .	. . .
Warren	82	21	15	6	6	5	8	4	4	2	6	2	3	82	. .	81	81	1	1	. . .	. . .
Warrick	164	5	9	17	19	15	10	29	11	5	11	14	19	160	4	142	146	21	18	1	. . .
Washington	147	5	15	13	10	13	16	29	7	11	10	10	8	147	. .	143	146	4	1	. . .	. . .
Wayne	306	29	27	31	27	23	32	29	20	18	20	17	33	286	20	279	283	22	17	5	6
Wells	186	25	9	29	14	14	10	22	17	14	14	7	11	186	. .	160	165	23	19	3	2
White	129	17	5	12	11	12	12	15	12	3	8	7	15	129	. .	108	109	4	3	17	17
Whitley	157	25	7	9	24	12	14	10	4	4	20	15	13	155	2	137	148	14	5	6	4
Total	18,073	1,986	1,631	1,650	1,705	1,424	1,449	1,589	1,232	1,146	1,279	1,387	1,595	17,692	381	16,417	16,727	1,364	1,014	292	332

TABLE B.

MARRIAGES.

Grouped Ages for the Year Ending September 30, 1887.

COUNTIES.	Total.	GROUPED AGES.																	
		Under 20.		20 to 30.		30 to 40.		40 to 50.		50 to 60.		60 to 70.		70 to 80.		Over 80.		Not Reported.	
		Gr.	Br.	Gr.	Br.	Gr.	Br.	Gr.	Br.	Gr.	Br.	Gr.	Br.	Gr.	Br.	Gr.	Br.	Gr.	Br.
Adams	152	6	62	120	58	17	9	5	4	2	2	2	...	...	...	...	...	...	17
Allen	544	6	122	329	284	116	79	47	32	29	13	13	1	...	...	...	...	4	13
Bartholomew	187	2	34	125	126	42	18	11	5	3	...	2	1	...	...	...	...	2	3
Benton	89	1	23	65	53	11	2	1	...	...	1	...	...	1	...	...	...	10	10
Blackford	88	2	36	35	37	37	13	13	2	1	...	...	...	...	...	...	...	...	...
Boone	235	4	73	166	139	45	11	10	5	5	4	2	...	...	...	...	...	3	3
Brown	101	...	4	19	18	15	13	1	...	...	...	...	...	...	...	...	...	66	66
Carroll	164	1	37	106	104	36	14	7	6	8	1	3	1	1	...	...	...	2	1
Cass	269	8	95	165	132	62	21	16	15	9	1	2	...	...	...	...	...	7	5
Clark	396	...	...	3	4	1	...	...	...	...	...	...	...	...	...	...	...	392	392
Clay	210	6	75	153	102	32	23	13	6	2	2	4	2	...	...	...	...	...	...
Clinton	187	13	66	121	86	23	13	7	4	6	2	1	...	...	...	...	...	16	16
Crawford	154	8	64	101	74	25	9	11	3	3	1	1	...	...	...	...	...	5	3
Daviess	186	2	64	115	96	37	18	5	5	4	1	...	...	1	...	...	...	22	2
Dearborn	233	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	233	233
Decatur	151	4	36	92	95	33	14	11	3	3	3	5	...	2	...	1	...	...	...
Dekalb	197	4	52	145	124	36	15	7	6	3	...	2	...	...	...	...	...	...	...
Delaware	266	6	91	185	143	38	18	17	11	5	1	4	...	...	...	...	...	11	2
Dubois	146	...	34	104	94	29	12	7	2	2	...	2	2	1	...	...	...	1	2
Elkhart	318	18	65	183	216	72	22	23	11	16	1	5	...	...	...	...	...	1	3

Fayette	69	...	11	51	45	11	9	4	1	...	2	3	...	...	...	...	...	...	1
Floyd	214	3	30	144	142	46	20	11	5	4	...	...	...	1	...	...	...	5	17
Fountain	219	2	77	148	112	46	20	11	4	3	3	6	1	1	...	...	...	2	2
Franklin	169	1	38	123	116	33	12	7	2	5	...	...	...	...	...	...	...	...	1
Fulton	149	1	41	77	58	30	30	26	17	13	3	2	...	...	...	...	...	...	...
Gibson	238	5	79	154	125	47	18	16	9	10	2	2	...	...	...	...	...	4	5
Grant	239	9	85	173	132	35	7	9	7	5	4	5	...	1	1	...	...	2	3
Greene	138	3	47	88	69	30	14	5	6	5	1	3	...	2	...	...	...	2	1
Hamilton	201	6	77	142	97	27	11	13	10	6	1	...	...	1	1	...	...	5	5
Hancock	140	7	40	89	75	35	21	6	2	1	...	...	...	...	...	...	...	2	2
Harrison	163	1	43	130	106	18	9	6	3	7	2	1	...	...	...	...	...	...	...
Hendricks	159	4	27	108	115	31	8	8	1	2	5	3	2	2	...	...	...	1	...
Henry	216	5	58	152	127	36	14	11	10	3	1	2	1	...	...	2	...	5	5
Howard	218	...	43	99	78	29	12	9	6	3	4	3	...	...	...	...	...	75	75
Huntington	260	5	64	185	158	39	15	10	11	5	1	5	1	1	...	...	...	10	10
Jackson	242	9	80	170	132	34	16	15	7	8	2	2	...	...	...	...	...	4	5
Jasper	101	...	32	72	57	18	9	5	...	3	1	...	...	1	...	...	...	2	2
Jay	227	3	83	179	124	26	9	8	3	2	3	1	1	3	...	1	...	4	4
Jefferson	249	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	249	249
Jennings	144	8	36	98	87	27	15	5	5	5	...	...	1	1	...	...	...	...	...
Johnson	174	2	15	37	32	12	6	...	2	2	1	1	...	...	...	...	...	120	118
Knox	335	3	66	172	163	67	25	12	7	7	3	2	...	1	1	1	...	70	70
Kosciusko	269	7	84	198	142	37	25	13	11	8	5	3	2	3	...	...	...	...	...
Lagrange	114	2	28	80	67	21	13	3	1	2	2	3	2	2	...	...	...	1	1
Lake	163	1	39	122	108	26	8	6	4	4	2	2	2	2	...	...	...	...	...
Laporte	196	...	38	152	141	31	11	7	3	2	...	...	...	...	...	...	...	4	3
Lawrence	175	4	57	124	99	30	12	9	6	4	1	3	...	1	...	...	...	...	...
Madison	278	...	86	204	155	40	19	9	9	11	4	9	4	2	...	1	...	2	1
Marion	1,095	11	215	703	672	239	125	83	46	32	16	19	2	...	...	...	...	8	19
Marshall	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Martin	145	17	45	89	76	24	18	11	4	2	1	1	...	...	...	...	...	1	1
Miami	187	2	49	137	122	35	10	6	3	5	2	1	1	1	...	...	...	...	...
Monroe	139	5	39	95	84	25	9	9	6	1	...	3	...	1	...	...	...	...	1
Montgomery	263	...	8	27	24	4	1	3	2	1	1	...	...	1	...	...	...	227	227
Morgan	196	5	73	148	97	29	20	2	1	6	3	3	...	...	...	...	...	3	2
Newton	49	1	15	34	28	7	2	2	...	1	...	...	2	2	...	...	...	2	2
Noble	156	...	34	109	94	30	19	10	4	4	4	2	1	1	...	...	...	...	...
Ohio	49	2	14	28	26	10	1	...	...	1	...	...	...	...	...	...	...	8	8
Orange	127	4	39	80	65	22	11	10	6	5	1	2	...	2	...	...	...	2	5
Owen	126	3	40	88	67	16	6	5	6	8	2	1	...	...	...	...	...	5	5
Parke	182	2	53	122	109	37	10	8	5	8	2	1	2	2	...	...	...	2	1
Perry	128	5	38	93	67	17	7	6	1	2	...	1	...	...	...	...	...	4	15
Pike	204	6	71	143	101	32	18	12	8	7	5	2	...	...	...	...	...	2	1
Porter	126	1	20	75	81	31	15	16	5	...	...	...	...	...	...	...	...	3	5

TABLE B—Continued.

COUNTIES.	Total.	Grouped Ages.																	
		Under 20.		20 to 30.		30 to 40.		40 to 50.		50 to 60.		60 to 70.		70 to 80.		Over 80.		Not Reported.	
		Gr.	Br.	Gr.	Br.	Gr.	Br.	Gr.	Br.	Gr.	Br.	Gr.	Br.	Gr.	Br.	Gr.	Br.	Gr.	Br.
Posey	246	2	56	163	136	47	32	19	5	5	1	...	...	1	...	...	...	9	16
Pulaski	69	1	21	47	43	16	3	1	1	3	1	...	...	...	...	...	...	1	...
Putnam	202	2	51	119	111	54	22	14	13	5	1	6	1	...	...	...	...	2	3
Randolph	297	10	96	219	163	41	24	13	8	5	3	5	2	...	...	...	...	3	1
Ripley	176	13	54	36	39	50	29	23	7	9	1	...	1	...	...	...	...	45	45
Rush	164	2	25	87	81	25	16	8	3	2	1	1	...	1	...	...	...	38	38
Scott	59	4	25	38	24	7	4	3	2	4	2	...	...	2	1	...	...	1	1
Shelby	190	7	70	130	86	20	11	13	7	6	3	4	1	...	...	...	...	10	12
Spencer	238	5	75	166	139	48	17	11	4	4	3	4	...	...	...	...	...	...	...
Starke	71	1	28	54	35	8	5	6	2	1	...	...	...	...	...	...	...	1	1
Steuben	94	1	28	74	54	12	3	2	7	...	2	2	...	1	...	...	...	2	...
St. Joseph	249	4	66	170	147	39	11	11	3	4	5	6	2	2	1	...	...	13	14
Sullivan	192	12	73	116	85	35	18	13	7	8	6	5	1	...	...	...	...	3	2
Switzerland	139	3	48	103	69	20	16	7	3	2	2	4	1	...	...	...	...	...	...
Tippecanoe	322	3	59	214	213	71	33	19	10	11	1	...	...	...	...	...	...	4	5
Tipton	173	4	63	122	78	21	11	5	3	5	2	4	2	...	...	...	...	12	15
Union	58	1	20	41	28	10	7	4	2	1	...	1	1	...	...	...	...	...	...
Vanderburgh	391	1	105	265	207	69	29	15	16	11	3	5	1	1	...	...	...	24	30
Vermillion	93	1	30	58	47	22	12	4	1	4	1	2	...	...	...	...	...	2	2
Vigo	575	9	112	384	321	107	85	41	41	22	7	7	3	3	...	...	...	2	6
Wabash	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Warren	82	1	24	65	53	13	3	2	...	...	...	...	...	...	...	...	...	1	2
Warrick	164	3	51	107	82	34	19	12	5	2	2	...	...	1	...	...	...	5	5
Washington	147	1	34	101	88	15	8	7	5	3	1	5	...	...	...	...	...	12	11
Wayne	306	5	63	219	189	56	39	14	7	4	4	4	1	2	...	...	...	2	3
Wells	186	...	56	141	111	37	11	5	3	2	1	1	...	...	...	...	...	...	4
White	129	1	11	35	31	6	...	...	...	...	1	...	...	1	...	...	...	86	86
Whitley	157	3	51	119	89	23	13	8	3	2	1	1	...	1	...	...	...	...	...
Total	18,073	346	4,585	11,171	9,309	3,033	1,465	919	537	439	178	212	49	57	5	6	...	1,890	1,945

BIRTHS.

The total number of births for the year ending September 30, 1887, is 36,248.

TABLE A.

BIRTHS BY COUNTIES.

Number of Males and Females for each Month, Year Ending September 30, 1887.

COUNTIES.	1886.						1887.																		Males.	Females.	Total.
	Oct.		Nov.		Dec.		Jan.		Feb.		March.		April.		May.		June.		July.		Aug.		Sept.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
Adams	13	9	16	3	11	7	10	8	8	10	9	8	3	5	15	5	2	8	10	9	9	5	11	13	117	90	207
Allen	32	27	31	24	22	24	35	30	30	35	47	35	27	28	23	20	33	29	30	35	32	36	20	36	362	359	721
Bartholomew	22	28	27	28	34	25	14	23	34	26	22	21	27	20	23	31	21	18	29	22	29	18	36	32	318	291	609
Benton	9	6	12	9	8	10	13	3	10	6	10	8	4	7	11	7	8	7	7	5	15	8	10	8	117	84	201
Blackford	10	7	5	10	5	7	9	9	11	10	15	11	8	10	10	11	9	3	7.	6	8	7	9	8	106	99	205
Boone	39	29	26	20	12	22	30	27	17	21	25	21	31	28	27	22	29	12	43	32	33	20	20	28	332	282	614
Brown	8	9	4	7	5	5	12	7	6	11	12	12	10	8	4	2	11	4	8	10	13	8	15	5	108	88	196
Carroll	22	25	29	18	21	26	20	22	22	11	27	33	25	17	24	23	22	20	28	17	30	28	14	30	284	270	554
Cass	22	12	16	14	26	31	26	16	21	20	25	23	11	10	16	13	15	10	12	15	25	16	18	20	233	200	433
Clark	8	18	9	11	16	14	28	16	15	11	14	6	11	9	20	25	6	9	20	12	15	14	18	35	180	180	360
Clay	17	13	16	11	19	10	32	31	27	33	29	25	30	25	36	25	14	18	23	26	28	31	29	25	300	273	573
Clinton	16	14	6	6	3	3	10	9	7	3	8	6	9	5	3	6	5	7	1	1	4	4	3	2	75	66	141
Crawford	10	4	3	7	4	10	5	8	5	13	4	9	9	7	4	9	5	1	14	13	10	9	16	19	89	109	198
Daviess	11	12	15	22	20	25	19	14	17	30	19	23	26	19	34	26	20	16	34	30	30	28	30	29	275	274	549
Dearborn	18	19	17	26	14	19	20	16	23	27	17	14	15	13	7	16	13	10	5	13	12	15	6	10	167	198	365
Decatur	20	17	14	9	14	9	12	13	25	14	16	20	17	10	7	14	9	6	13	12	18	13	18	21	183	158	341
Dekalb	8	14	8	7	8	15	10	10	5	..	8	3	8	7	1	3	2	1	8	6	11	16	4	4	81	86	167
Delaware	25	22	38	23	18	24	27	27	27	24	25	23	30	22	21	26	16	18	26	34	36	22	28	27	317	292	609
Dubois	20	20	18	19	13	17	15	23	21	16	21	17	23	19	9	19	4	9	18	23	13	13	21	14	196	209	405
Elkhart	29	27	28	32	32	27	26	33	34	30	39	29	24	17	31	23	25	28	23	17	21	11	18	29	330	303	633

Fayette	8	11	7	9	11	8	5	9	9	7	9	2	8	7	6	7	2	2	17	6	9	11	17	10	108	89	197
Floyd	26	31	13	24	12	3	55	41	8	6	3	4	42	36	24	33	30	21	28	25	13	18	29	17	283	259	542
Fountain	24	14	7	12	13	10	15	8	15	5	12	13	15	8	14	6	9	7	10	6	6	12	9	10	149	111	260
Franklin	10	9	9	8	9	4	12	10	11	10	8	14	5	15	6	4	13	10	10	14	9	3	5	5	107	106	213
Fulton	14	10	4	3	7	4	16	13	12	12	4	5	8	6	5	4	10	6	6	5	9	7	5	3	100	78	178
Gibson	23	22	18	16	20	20	23	21	19	34	15	12	10	10	17	12	10	14	30	21	20	22	19	16	224	320	444
Grant	9	8	9	19	10	6	16	16	15	13	7	2	9	9	9	7	9	9	22	10	20	16	8	11	143	126	269
Greene	27	21	14	7	5	4	17	16	26	18	11	6	13	7	14	12	8	8	7	18	12	19	6	10	160	146	306
Hamilton	27	23	35	30	22	20	23	15	20	23	17	12	42	35	19	28	19	21	27	25	30	33	28	31	309	296	605
Hancock	27	13	12	18	16	16	28	16	21	14	25	19	20	16	14	12	14	19	17	30	23	19	25	21	242	213	455
Harrison	22	30	39	44	15	15	17	21	19	21	22	26	12	8	13	10	7	10	33	23	15	8	10	12	224	228	452
Hendricks	26	17	21	20	16	18	29	25	22	21	23	19	11	16	13	10	20	20	21	20	9	25	17	15	228	226	454
Henry	28	20	14	21	19	18	17	17	23	27	28	21	31	31	25	16	25	25	17	17	30	30	31	31	288	274	562
Howard	20	16	10	14	19	7	20	19	13	12	19	20	20	24	11	21	14	20	23	17	21	23	41	28	231	221	452
Huntington	29	20	32	18	20	19	26	27	12	17	19	16	25	37	29	27	16	17	35	32	30	24	29	20	302	264	566
Jackson	19	25	49	44	26	32	26	23	32	24	27	26	33	30	17	15	29	33	17	17	11	16	42	28	328	313	641
Jasper	7	8	9	8	7	10	16	15	9	3	13	4	12	9	10	10	1	5	17	8	9	7	7	5	117	92	209
Jay	20	25	15	20	23	10	35	22	19	21	20	21	21	13	23	25	18	13	32	24	13	16	20	16	259	226	485
Jefferson	3	2	1	. .	3	. .	13	6	9	12	6	6	2	4	6	4	4	4	11	10	15	6	14	6	87	60	147
Jennings	9	12	6	12	13	11	12	14	14	9	13	12	18	10	15	12	10	12	13	19	17	13	20	8	160	144	304
Johnson	21	23	24	15	9	18	13	21	20	23	15	21	18	21	21	24	7	11	27	13	22	17	23	19	220	226	446
Knox	10	13	18	11	18	18	20	14	25	28	28	19	36	22	28	32	14	10	33	20	18	22	27	21	275	230	505
Kosciusko	18	14	13	12	21	12	10	14	11	12	18	11	10	5	13	12	12	8	11	14	14	11	14	12	165	137	302
Lagrange	10	19	11	9	5	8	19	10	7	9	15	8	17	12	15	6	3	9	21	15	15	8	12	11	150	124	274
Lake	20	20	27	13	19	10	13	11	15	12	12	11	14	23	16	9	16	6	12	12	16	13	14	11	194	151	345
Laporte	40	26	36	28	26	24	25	28	24	21	35	19	21	19	16	21	19	26	28	23	32	23	36	24	338	282	620
Lawrence	10	11	3	2	4	6	28	22	8	8	9	14	9	18	4	6	13	9	13	6	11	6	16	21	128	129	257
Madison	36	42	44	34	43	24	32	29	34	35	41	35	48	33	37	26	28	21	33	43	33	31	28	29	437	382	819
Marion	102	108	75	97	119	106	112	119	105	83	112	125	113	101	101	96	94	83	111	114	133	102	108	106	1,285	1,240	2,525
Marshall	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. . .	. . .	. . .
Martin	9	12	8	10	8	8	7	5	7	7	3	5	10	8	12	9	8	7	6	9	10	8	10	12	98	100	198
Miami	19	22	16	15	22	8	18	11	9	9	15	11	16	18	19	15	11	10	17	14	19	15	10	9	191	157	348
Monroe	13	14	11	7	12	16	22	17	19	11	13	10	20	12	12	13	13	8	13	10	19	21	18	10	185	149	334
Montgomery	18	26	24	17	14	18	16	28	25	26	28	26	18	13	16	21	12	23	21	21	19	17	29	15	240	251	491
Morgan	30	24	18	14	22	22	15	21	12	13	10	13	25	25	12	14	16	15	15	16	12	11	10	13	197	201	398
Newton	13	11	4	5	4	12	7	5	7	2	5	5	8	10	2	4	3	2	14	11	7	8	5	10	79	85	164
Noble	2	1	7	4	6	2	17	11	24	8	11	13	11	13	7	7	13	16	9	6	13	11	14	10	134	102	236
Ohio	4	5	11	3	3	5	11	7	3	3	7	3	1	3	8	2	3	1	6	5	1	3	6	3	64	43	107
Orange	6	12	5	9	5	6	14	14	7	14	6	10	16	13	10	14	1	8	11	6	8	7	8	11	97	124	221
Owen	12	7	15	20	13	15	12	13	15	7	9	12	12	9	11	9	9	8	11	12	7	9	10	6	136	127	263
Parke	15	7	13	12	14	5	14	11	13	11	3	16	9	5	14	8	13	7	9	13	12	5	13	9	142	109	251
Perry	. .	. .	. .	. .	. .	. .	14	21	6	4	6	13	11	5	2	1	3	1	8	6	10	10	8	8	68	69	127
Pike	9	20	19	11	8	13	4	. .	8	7	13	19	6	5	4	6	33	21	10	8	10	18	4	6	128	134	262
Porter	2	9	6	3	8	2	4	7	3	1	4	3	15	15	11	6	11	4	3	7	12	17	14	15	93	89	182

TABLE A—Continued.

COUNTIES.	1886.						1887.																		Males.	Females.	Total.
	Oct.		Nov.		Dec.		Jan.		Feb.		March.		April.		May.		June.		July.		Aug.		Sept.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
Posey	42	29	28	20	31	20	30	21	24	30	30	23	25	30	18	10	12	8	36	26	29	35	21	16	326	268	594
Pulaski	10	12	7	6	4	2	3	11	9	6	3	4	9	7	5	3	4	3	4	6	10	17	12	4	80	71	151
Putnam	17	31	14	11	12	11	21	31	14	18	23	14	18	19	19	11	17	9	21	15	18	20	14	17	208	207	415
Randolph	45	37	30	19	25	28	35	41	28	21	37	21	32	28	31	29	23	16	39	52	21	24	24	19	370	335	705
Ripley	9	10	15	15	15	8	21	12	10	17	14	8	14	18	15	11	15	8	15	7	13	12	7	6	163	132	295
Rush	16	9	13	14	20	8	15	19	12	14	15	16	26	27	17	10	17	16	16	27	16	15	7	18	190	193	383
Scott	8	4	9	2	7	4	10	11	3	5	6	8	10	4	2	5	5	3	12	5	11	6	7	6	90	63	153
Shelby	42	42	9	7	8	12	36	28	24	26	19	31	25	15	15	16	15	17	30	25	17	15	13	15	253	249	502
Spencer	21	25	23	28	25	19	27	24	16	12	19	20	32	16	12	12	16	8	18	18	18	14	21	18	248	214	462
Starke	3	2	2	4	7	5	2	1	3	2	5	4	3	2	3	2	1	1	2	. .	2	1	1	2	34	26	60
Steuben	6	7	7	6	1	4	11	12	6	11	11	10	6	5	5	5	4	3	11	11	6	5	4	6	78	85	163
St. Joseph	26	20	29	33	20	21	24	23	24	27	3	8	42	31	16	16	15	11	20	26	20	25	19	26	258	267	525
Sullivan	10	5	12	8	13	6	13	10	13	10	11	8	16	14	15	17	11	9	16	17	15	13	15	16	160	133	293
Switzerland	5	8	5	12	7	9	6	10	8	7	7	10	5	2	6	6	9	6	2	5	6	4	5	7	71	86	157
Tippecanoe	25	23	26	31	16	22	12	12	14	12	11	9	22	21	23	17	14	12	28	20	20	22	31	27	242	228	470
Tipton	20	21	6	4	23	33	19	23	19	22	17	27	3	4	19	23	28	30	24	25	17	18	22	23	217	253	470
Union	3	3	4	1	4	4	.	4	2	6	6	6	9	9	2	5	2	2	6	9	1	2	3	7	42	58	100
Vanderburg	42	38	38	22	46	41	34	46	51	45	69	68	54	41	42	28	37	34	50	68	62	53	57	64	582	548	1,130
Vermillion	7	9	5	8	5	5	5	8	8	7	9	10	7	5	5	5	5	3	13	9	4	5	6	8	79	82	161
Vigo	66	52	47	37	41	35	47	48	42	28	35	25	178	158	35	46	35	32	41	44	33	23	19	12	619	540	1,159
Wabash	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Warren	10	1	9	11	8	10	11	7	8	9	9	12	10	7	10	8	3	4	14	9	10	7	8	3	110	88	198
Warrick	20	11	33	21	23	18	34	26	17	17	17	18	22	18	13	15	10	12	22	11	20	11	26	12	257	190	447
Washington	23	17	11	9	8	7	14	10	20	10	9	10	56	33	25	23	9	11	17	11	6	20	14	9	212	170	382
Wayne	61	39	31	22	26	38	22	18	37	34	44	32	40	33	41	34	33	39	36	37	36	32	31	31	438	389	827
Wells	13	13	16	12	13	11	3	2	2	3	2	2	3	3	7	5	8	3	2	1	5	5	3	4	77	64	141
White	7	6	7	7	6	4	15	10	8	11	9	4	14	4	7	8	2	6	13	12	10	8	10	12	108	92	200
Whitley	14	19	6	9	9	4	4	6	6	2	3	1	11	9	12	12	5	12	29	19	2	2	2	1	103	96	199
Total	1,726	1,608	1,512	1,383	1,417	1,312	1,715	1,612	1,528	1,420	1,554	1,438	1,862	1,588	1,427	1,344	1,247	1,142	1,731	1,599	1,594	1,457	1,565	1,478	18,878	17,370	36,248

TABLE B.

BIRTHS.

Color, Nationality of Parents, together with Still, Plurality and Illegitimate Births, for the Year Ending September 30, 1887.

COUNTIES.	No. of Children.	COLOR.				NATIONALITY OF PARENTS.						Still.		Plurality.		Illegitim'te	
		White.		Colored.		American.		Foreign.		Not Reported.							
		M.	F.	M.	F.	Fath.	M'th.	Fath.	M'th.	Fath.	M'th.	Male.	Female.	Male.	Female.	Male.	Female.
Adams	207	117	90	...	...	163	178	29	14	13	13	1	1	3	1	...	1
Allen	721	260	357	2	2	373	414	212	164	132	139	11	5	4	4	8	7
Bartholomew	609	315	288	3	3	538	579	39	13	19	4	14	10	13	13	6	5
Benton	201	117	84	...	...	158	169	38	26	4	5	4	1	1	1	1	...
Blackford	205	106	99	...	...	176	173	...	...	22	25	2	5	6	8	6	2
Boone	614	331	282	1	...	606	607	5	4	...	...	5	4	4	2	1	4
Brown	196	108	88	...	...	193	194	2	1	...	...	...	...	1	1	...	...
Carroll	554	284	270	...	...	513	515	11	9	21	21	8	4	11	7	1	6
Cass	433	232	199	1	1	342	357	83	68	...	...	7	2	7	9	...	...
Clark	360	175	162	5	18	323	321	37	39	...	...	1	3	...	...	...	...
Clay	573	296	270	4	3	406	430	135	115	21	17	4	3	11	11	2	4
Clinton	141	75	66	...	...	140	140	...	...	...	..	2	1	1	1	...	...
Crawford	198	89	109	...	...	194	198	1	...	3	...	1	3	...	...	4	3
Daviess	549	268	272	7	2	515	523	21	12	12	13	6	5	1	1	5	6
Dearborn	365	167	195	...	3	297	312	47	28	16	20	4	3	5	5	...	3
Decatur	341	182	155	1	3	316	328	23	11	...	...	...	...	2	2	..	1
Dekalb	167	81	86	...	...	155	158	5	4	6	4	1	3	2	...	...	...
Delaware	609	316	291	1	1	588	592	8	7	3	...	7	12	7	13	3	11
Dubois	405	196	208	...	1	349	377	48	23	5	2	..	1	3	3	...	2
Elkhart	633	327	300	3	3	449	475	99	86	71	58	11	10	13	14	6	9

TABLE B—Continued.

COUNTIES.	No. of Children.	COLOR.				NATIONALITY OF PARENTS.						Still.		Plurality.		Illegitim'te	
		White.		Colored.		American.		Foreign.		Not Reported.							
		M.	F.	M.	F.	Fath.	M'th.	Fath.	M'th.	Fath.	M'th.	Male.	Female.	Male.	Female.	Male.	Female.
Fayette	197	107	87	1	2	186	190	9	5	...	...	2	1	3	1	2	...
Floyd	542	277	251	6	8	445	484	75	46	16	6	12	3	5	7	1	3
Fountain	260	149	111	...	...	234	239	13	9	10	9	7	1	4	2	2	4
Franklin	213	107	106	...	...	166	188	31	15	14	8	...	...	1	3	2	1
Fulton	178	100	78	...	...	177	177	1	1	...	...	1	...	...	...	...	1
Gibson	444	215	204	9	16	412	419	19	14	4	2	10	10	11	7	7	6
Grant	269	143	125	...	1	249	254	7	3	7	6	4	5	7	5	3	7
Greene	306	159	143	1	3	281	284	2	2	20	17	6	...	4	2	1	5
Hamilton	605	303	291	6	5	577	579	5	5	9	7	12	12	19	9	10	3
Hancock	455	242	213	...	...	396	410	9	3	47	39	4	7	4	2	1	3
Harrison	452	217	223	7	5	412	421	11	6	25	21	5	8	3	5	13	7
Hendricks	454	225	223	3	3	429	428	11	9	8	11	8	5	7	5	8	3
Henry	562	285	266	3	8	530	547	6	1	15	3	8	3	15	7	10	11
Howard	451	227	218	4	2	421	433	9	2	13	8	3	4	11	5	3	...
Huntington	566	302	274	...	...	519	528	34	24	7	8	10	6	7	5	3	3
Jackson	641	324	311	4	2	587	613	45	19	8	3	15	10	5	7	4	7
Jasper	209	117	92	...	...	170	188	33	15	1	1	4	...	6	4	1	...
Jay	485	257	221	2	5	452	471	18	4	7	2	9	2	6	10	3	4
Jefferson	147	82	59	5	1	127	130	6	4	13	12	1	1	1	1	1	..
Jennings	304	156	140	4	4	269	280	17	5	15	16	...	...	3	3	2	...
Johnson	446	214	224	6	2	423	437	4	3	18	5	6	5	...	2	9	5
Knox	505	272	225	3	5	492	492	...	...	...	...	13	7	*14	11	10	2
Kosciusko	302	165	137	...	...	302	302	...	...	...	...	2	1	...	...	1	1
Lagrange	274	148	124	2	...	228	229	5	5	37	36	4	4	3	5	1	...
Lake	345	194	151	...	...	167	198	163	131	12	13	2	1	3	1	...	...
Laporte	620	234	281	4	1	314	339	270	248	34	31	11	9	3	1	3	5
Lawrence	257	127	255	1	2	238	247	6	2	13	8	...	...	...	...	1	4
Madison	819	437	379	...	3	776	787	10	8	27	18	13	12	5	7	16	8
Marion	2,525	1,196	1,167	89	73	1,765	1,948	623	484	116	72	67	47	23	19	52	37
Marshall	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

Martin	198	98	100	...	...	183	192	13	4	...	...	8	8	1	3	3	2
Miami	348	190	157	1	...	326	334	18	10	3	3	5	5	2	...	1	2
Monroe	334	180	142	5	7	328	331	2	...	1	...	3	...	2	4	4	5
Montgomery	491	233	248	7	3	473	477	12	10	3	1	5	4	3	1	6	2
Morgan	398	196	200	1	1	358	354	3	4	37	40	3	4	...	...	6	6
Newton	164	79	85	...	...	113	110	32	34	15	16	...	1	4	4	...	1
Noble	236	134	102	...	...	190	211	21	11	24	13	9	1	...	2	4	3
Ohio	107	60	40	4	3	82	86	24	20	...	...	1	1	1	1	...	1
Orange	221	96	123	1	1	214	217	...	...	3	...	8	3	1	5	1	4
Owen	263	136	126	...	1	253	257	3	2	6	3	2	4	...	2	5	3
Parke	251	137	102	5	7	239	242	7	4	...	...	4	6	3	7	1	1
Perry	137	68	68	...	1	93	101	30	18	14	18	...	4	...	...	1	3
Pike	262	127	134	1	...	228	227	9	10	22	22	2	1	5	1	4	1
Porter	182	93	89	...	...	114	115	65	66	3	1	1	2	...	...	...	...
Posey	594	318	265	8	3	518	549	58	30	7	4	5	5	12	10	5	4
Pulaski	151	80	71	...	...	126	134	10	7	12	7	2	...	3	3	...	...
Putnam	415	201	200	7	7	377	381	20	17	11	10	10	4	6	8	7	2
Randolph	705	365	329	5	6	672	687	18	10	9	2	11	8	8	4	5	13
Ripley	295	163	132	...	...	147	155	148	139	...	1	...	...	...	...	...	1
Rush	383	185	190	5	3	346	360	24	15	11	6	10	...	3	1	1	...
Scott	153	90	63	...	...	147	145	1	...	1	4	1	...	3	5	1	...
Shelby	502	248	247	5	2	455	471	14	6	29	21	7	5	3	5	7	3
Spencer	462	237	200	11	14	421	442	24	10	7	...	16	4	9	*10	6	7
Starke	60	34	26	...	...	37	39	11	9	12	12	2	1	...	...	3	...
Steuben	163	78	85	...	...	131	137	2	2	30	24	2	2		...	3	...
St. Joseph	525	258	267	...	...	276	295	243	225	2	1	4	1	2	6	1	...
Sullivan	293	160	133	...	...	283	287	...	...	7	3	...	1	3	3	1	...
Switzerland	157	71	82	...	4	147	150	7	4	1	1	5	...	2	2	1	2
Tippecanoe	470	241	226	1	2	293	316	103	86	70	64	6	3	4	4	3	2
Tipton	470	217	252	...	1	431	430	10	2	18	27	3	4	12	10	1	4
Union	100	41	55	1	3	99	98	1	2	...	...	...	1	...	...	...	...
Vanderburgh	1,130	544	507	38	41	778	841	313	260	24	14	48	35	13	17	11	13
Vermillion	161	79	82	...	...	154	158	3	...	2	1	3	2	5	1	2	1
Vigo	1,159	601	522	18	18	859	891	138	89	148	165	27	26	14	14	9	12
Wabash	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Warren	198	110	88	...	...	187	193	7	4	3	...	3	3	...	2	2	1
Warrick	447	242	187	15	3	409	416	33	31	5	...	2	2	...	...	1	3
Washington	382	212	170	...	...	374	376	3	1	...	...	5	1	5	5	3	1
Wayne	827	417	374	21	15	698	742	98	68	20	6	15	7	11	11	14	9
Wells	141	77	64	...	...	126	124	14	16	...	...	...	1	2	...	...	...
White	200	108	92	...	...	196	194	2	4	...	...	1	1	3	1	1	...
Whitley	199	103	96	...	...	189	194	7	4	3	1	...	...	...	...	...	...
Total	36,248	18,530	17,043	348	327	30,608	31,741	3,836	2,931	1,401	1,173	638	428	422	384	331	302

*Triplets.

TAB

BIR

Number of Children Born to Each Mother, Grouped

COUNTIES.	No. of Children.	NUMBER OF CHILD BORN TO THIS MOTHER.												
		1st.	2d.	3d.	4th.	5th.	6th.	7th.	8th.	9th.	10th.	11th.	12th & over.	Not Reported.
Adams	207	56	30	20	26	21	12	14	6	5	4	..	..	13
Allen	721	161	122	96	54	48	32	28	22	10	8	3	3	134
Bartholomew	609	147	124	103	83	45	25	31	12	6	8	4	8	13
Benton	201	52	47	22	20	16	10	8	11	4	5	2	1	3
Blackford	205	48	43	47	24	17	9	5	4	3	..	3	..	2
Boone	614	174	109	81	76	55	36	27	17	13	2	3	5	16
Brown	196	35	29	34	33	20	12	6	11	6	4	2	1	3
Carroll	554	144	105	89	68	51	34	17	22	8	8	2	2	4
Cass	433	127	76	70	41	30	34	11	9	6	7	3	1	18
Clark	360	100	74	51	44	25	24	14	11	9	5	1	1	1
Clay	573	134	87	89	82	37	43	25	20	16	4	8	6	22
Clinton	141	38	32	13	22	13	8	7	4	2	1	..	1	..
Crawford	198	52	31	30	23	18	15	11	3	6	3	2	3	1
Daviess	549	131	88	73	64	61	38	29	28	13	7	7	6	4
Dearborn	365	75	85	53	47	32	19	22	10	7	4	4	..	7
Decatur	341	92	63	52	47	29	19	12	11	8	1	2	4	1
Dekalb	167	49	37	30	22	7	8	3	8	1	1	1	..	..
Delaware	609	156	129	102	57	44	37	26	16	9	10	5	6	12
Dubois	405	83	73	47	52	44	32	18	17	13	9	3	8	6
Elkhart	633	193	103	88	67	50	29	18	23	11	5	4	8	34
Fayette	197	47	44	28	27	17	11	7	10	1	1	2	1	1
Floyd	542	164	98	82	57	43	34	17	20	14	4	2	1	6
Fountain	260	73	38	51	18	27	15	11	14	4	4	..	2	3
Franklin	213	53	34	31	26	23	15	6	5	8	5	1	3	3
Fulton	178	38	45	37	15	20	9	7	3	2	1	..	1	..
Gibson	444	99	84	71	54	43	25	23	15	18	6	1	..	5
Grant	269	64	64	47	22	29	13	7	5	2	3	3	4	6
Greene	306	74	64	44	31	23	25	10	13	5	5	5	3	4
Hamilton	605	150	112	105	75	54	33	26	17	11	8	4	4	6
Hancock	455	106	94	82	43	40	24	26	11	12	3	6	4	4
Harrison	452	107	77	54	54	42	38	23	21	8	5	4	4	15
Hendricks	454	103	96	60	60	36	32	16	19	9	7	2	6	8
Henry	562	158	120	105	61	34	23	13	19	15	8	2	1	3
Howard	451	123	86	71	50	36	33	19	12	9	4	1	1	6
Huntington	566	149	134	83	65	54	28	19	10	10	4	2	4	4
Jackson	641	159	116	90	79	56	39	33	24	13	10	3	9	10
Jasper	209	54	35	39	20	21	5	9	8	4	5	2	4	3
Jay	485	132	92	67	56	44	33	18	14	7	6	5	7	4
Jefferson	147	30	29	22	28	18	9	5	2	4	..	1	3	1
Jennings	304	75	56	41	27	31	24	17	6	6	7	1	1	12
Johnson	446	122	96	76	54	32	23	19	9	6	3	4	..	2
Knox	505	120	85	87	53	43	36	25	13	10	11	4	6	12
Kosciusko	302	83	63	49	42	23	15	14	2	4	3	2	..	2
Lagrange	274	80	56	45	34	15	9	11	7	5	1	..	1	10
Lake	345	78	63	55	42	33	16	15	9	12	8	5	4	5
Laporte	620	142	140	94	79	57	32	29	11	14	4	8	5	5
Lawrence	257	56	53	30	34	22	16	11	13	6	2	2	2	10
Madison	819	202	148	118	91	69	62	45	33	18	13	4	8	8
Marion	2525	716	516	387	284	184	154	86	70	52	29	18	8	21
Marshall	...	...	...	...	...	...	...	...	...	...	...	...	...	..

LE C.

THS.

Ages of Parents, for Year Ending September 30, 1887.

GROUPED AGES OF PARENTS.

Under 20.		20 to 30.		30 to 40.		40 to 50.		50 to 60.		60 to 70.	70 to 80.	Not Reported.	
Fath.	Moth.	Fath.	Moth.	Fath.	Moth.	Fath.	Moth.	Fath.	Moth.	Fath.	Fath.	Fath.	Moth.
2	21	77	105	75	61	36	5	6	...	...	...	9	13
3	44	239	314	201	179	93	35	21	1	2	...	158	144
2	50	208	325	251	180	93	33	13	...	2	...	17	8
1	12	74	94	72	72	37	14	10	...	...	...	6	8
...	60	62	77	92	48	34	10	10	...	...	...	...	3
4	65	266	313	215	190	93	34	23	...	...	...	10	9
...	24	98	103	59	48	31	14	2	...	1	...	4	6
6	39	218	311	210	157	80	32	19	...	3	...	9	6
10	54	151	200	139	100	39	17	12	...	4	1	69	54
3	27	163	192	142	124	43	16	8	...	...	...	1	1
5	61	232	297	214	155	76	27	13	2	2	...	20	20
11	20	66	75	47	37	15	7	1	1	...	...	...	...
1	21	91	101	61	58	31	11	3	...	3	...	8	7
2	50	232	294	213	151	72	43	19	...	1	...	9	10
5	30	144	186	133	103	44	24	8	...	3	...	22	16
3	29	108	169	141	112	58	21	7	...	...	...	22	8
...	21	73	75	55	53	22	5	4	...	...	...	12	12
3	63	266	340	228	150	64	31	18	...	8	...	17	15
...	30	155	207	154	145	74	19	12	...	...	...	7	1
1	73	287	293	185	160	79	35	16	...	3	...	49	59
2	3	77	113	87	69	25	9	3	1	1	...	...	...
4	44	242	315	212	151	56	22	11	1	1	3	7	3
2	21	105	135	79	70	42	15	5	...	1	...	23	16
1	9	59	94	78	71	41	19	4	...	2	...	26	18
2	...	63	76	28	33	23	22	8	5	...	...	54	42
3	59	162	204	142	106	57	16	12	2	7	...	52	48
4	28	104	146	95	58	36	10	3	...	...	...	21	21
2	30	125	164	108	85	42	15	9	...	2	...	15	9
4	58	244	325	211	158	72	34	22	1	4	...	34	15
1	44	188	244	166	131	69	25	13	...	...	1	14	8
2	35	172	221	158	144	77	34	9	...	1	3	26	14
...	25	165	227	186	163	69	21	14	...	1	...	13	12
5	58	258	316	196	150	66	24	13	...	2	...	11	3
2	29	187	253	158	127	61	19	8	...	3	1	23	15
1	37	233	321	228	168	77	23	7	...	...	...	14	11
3	67	232	313	233	208	117	31	24	...	1	...	25	16
1	17	75	116	81	58	43	13	2	...	2	...	...	...
3	52	199	248	167	138	71	32	18	...	2	...	17	7
...	11	50	76	70	46	22	10	2	...	1	...	1	3
...	14	71	106	119	119	74	39	13	6	5	...	19	17
4	46	205	252	172	126	42	16	8	...	...	...	14	5
1	37	182	272	186	138	76	24	15	...	1	...	31	21
2	34	138	169	113	84	30	11	11	...	...	...	8	4
1	19	98	164	86	65	32	9	7	...	1	...	45	13
...	23	125	188	135	96	61	29	9	...	2	...	10	6
5	34	220	363	276	162	76	37	14	...	1	...	26	22
...	28	91	112	99	98	44	12	8	...	1	...	14	7
5	97	326	433	292	227	121	38	27	...	4	1	37	18
11	204	956	1,347	968	735	356	124	56	...	10	2	145	94
...	...	...	...	...	...	...	...	...	...	...	...	...	...

TABLE C—

COUNTIES.	No. of Children.	Number of Child Born to This Mother.												
		1st.	2d.	3d.	4th.	5th.	6th.	7th.	8th.	9th.	10th.	11th.	12th & over.	Not Reported.
Martin	198	45	49	44	22	13	10	8	3	2	. .	. .	. .	2
Miami	348	95	70	58	46	22	17	12	10	5	4	2	3	4
Monroe	334	65	51	56	47	43	26	14	15	8	1	2	3	3
Montgomery	491	127	127	81	44	40	31	17	10	4	5	1	2	2
Morgan	398	104	79	69	48	31	19	13	9	3	1	2	3	17
Newton	164	32	23	29	24	13	8	12	5	4	1	2	2	9
Noble	236	62	51	44	20	19	13	7	9	. .	3	1	1	6
Ohio	107	32	18	20	12	6	6	5	2	4	1	. .	1	. .
Orange	221	61	30	33	31	22	18	3	9	2	3	. .	. .	9
Owen	263	77	55	32	36	17	14	8	11	4	. .	1	3	5
Parke	251	59	56	44	30	11	19	11	6	4	6	1	. .	4
Perry	137	26	19	25	20	12	13	8	3	2	1	1	. .	7
Pike	262	59	48	46	36	21	15	12	8	5	2	1	3	6
Porter	182	47	33	36	19	13	13	4	4	3	4	1	1	4
Posey	594	127	131	86	75	49	32	30	18	13	8	1	7	17
Pulaski	151	35	26	19	23	14	9	10	6	1	1	1	3	3
Putnam	415	107	73	48	48	33	27	30	12	6	9	11	5	6
Randolph	705	184	129	110	91	62	40	31	20	12	7	9	5	5
Ripley	295	76	55	39	32	22	23	19	13	4	2	3	5	2
Rush	383	92	78	51	45	38	29	20	8	4	7	2	5	4
Scott	153	25	36	21	20	14	10	14	7	1	3	. .	2	. .
Shelby	502	130	97	79	61	36	26	24	11	11	6	4	6	11
Spencer	462	125	102	66	47	30	30	24	11	8	5	3	4	7
Starke	60	16	6	8	9	6	4	5	3	. .	2	. .	1	. .
Steuben	163	61	27	34	13	10	8	4	2	1	1	. .	2	. .
St. Joseph	525	109	118	100	51	38	44	24	16	10	4	2	5	4
Sullivan	293	83	48	56	21	23	14	12	10	10	2	. .	2	12
Switzerland	157	42	30	22	17	11	9	10	6	3	4	. .	. .	3
Tippecanoe	470	138	84	73	51	29	21	13	21	6	7	1	5	21
Tipton	470	98	98	70	63	41	20	19	12	14	6	6	8	15
Union	100	28	23	18	9	6	5	6	1	1	. .	. .	2	1
Vanderburgh	1,130	286	224	170	135	81	78	33	32	25	19	5	15	27
Vermillion	161	43	34	25	19	7	11	9	5	3	. .	. .	1	4
Vigo	1,159	302	238	163	145	102	77	47	25	14	7	9	13	17
Wabash	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Warren	198	50	27	39	25	16	19	7	3	2	1	1	3	5
Warrick	447	113	90	63	41	32	38	20	15	16	6	5	7	1
Washington	382	105	51	55	47	40	29	23	10	8	4	2	2	6
Wayne	827	242	168	120	90	68	38	38	20	15	10	3	11	4
Wells	141	33	33	18	22	13	8	5	4	2	1	1	. .	1
White	200	50	34	37	23	20	22	9	2	. .	1	. .	. .	2
Whitley	199	50	39	46	17	14	14	5	5	3	. .	1	5	. .
Total	36,248	9,245	7,033	5,594	4,203	2,970	2,214	1,524	1,082	688	421	238	307	729

Continued.

GROUPED AGES OF PARENTS.

Under 20.		20 to 30.		30 to 40.		40 to 50.		50 to 60.		60 to 70.	70 to 80.	Not Reported.	
Fath.	Moth.	F. th.	Moth.	Fath.	Moth.	Fath.	Moth.	Fath.	Moth.	Fath.	Fath.	Fath.	Moth.
23	42	96	101	48	45	20	8	7	...	2	...	...	...
3	40	145	190	146	95	34	10	5	...	1	...	13	12
9	36	129	173	125	101	57	19	7	...	...	...	4	2
...	51	202	271	190	138	75	26	9	...	2	2	8	2
2	37	141	180	122	92	39	18	11	...	2	1	80	71
...	13	42	69	64	47	29	15	6	...	...	...	19	16
...	12	89	118	74	51	32	24	7	1	...	...	33	29
3	9	45	61	38	26	13	6	...	...	...	...	7	4
2	22	87	110	73	60	25	8	9	...	1	...	20	17
1	27	115	140	85	64	29	16	9	...	2	1	20	15
1	13	75	130	102	66	35	15	9	...	...	...	24	22
...	5	43	78	68	43	14	7	3	...	1	...	8	4
6	20	127	143	89	78	24	13	4	2	2	...	7	3
2	6	78	113	69	50	28	11	3	...	...	...	2	2
2	43	249	327	215	182	75	24	19	...	8	...	15	7
...	11	59	80	56	43	15	8	10	1	...	...	8	5
...	35	150	210	144	128	82	31	15	2	1	...	16	2
6	88	261	363	299	203	97	39	14	...	7	1	14	6
8	56	65	87	78	107	110	45	32	...	1	...	1	...
1	27	146	224	158	99	53	19	9	...	...	...	14	12
1	14	48	66	46	50	28	19	22	...	3	...	1	...
1	43	195	272	200	140	54	23	12	...	5	2	29	20
2	44	187	260	178	128	63	20	12	...	3	...	7	...
1	6	19	32	21	15	12	5	2	...	...	...	5	2
1	16	54	81	56	29	16	6	3	1	...	1	32	30
2	46	236	317	209	140	58	13	7	...	...	...	9	5
8	41	130	139	83	68	37	17	8	...	...	...	24	25
...	17	56	65	47	51	21	4	6	...	...	...	25	18
1	35	157	246	174	113	77	35	12	1	2	...	43	36
1	38	187	250	179	140	61	24	14	...	2	...	15	7
...	8	40	57	43	30	13	5	3	...	...	...	1	...
35	68	508	540	390	387	116	72	14	...	3	1	48	48
...	12	73	86	53	49	29	7	2	...	...	...	2	5
3	105	487	661	435	336	161	32	19	...	1	...	39	8
...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	22	74	103	80	56	28	9	4	...	1	...	10	7
2	45	190	231	171	136	61	27	11	...	2	...	10	8
4	33	125	183	120	89	71	35	22	9	5	...	30	28
8	70	320	422	303	270	143	49	25	...	2	...	15	5
...	21	46	57	60	47	27	11	6	...	...	...	1	4
1	25	93	111	68	57	32	4	2	...	...	...	2	1
...	29	87	99	68	54	34	13	5	...	...	...	5	4
273	3,288	14,228	18,833	13,243	10,370	5,120	1,958	979	37	142	21	1,889	1,359

REPORT OF DELEGATE TO ANNUAL MEETING OF AMERICAN PUBLIC HEALTH ASSOCIATION.

JOHN N. TAYLOR.

Officers and Members Indiana State Board of Health:

Pursuant to my appointment as your representative to the annual session of the above named body, I have the honor to report as follows:

The fifteenth annual meeting of the American Public Health Association convened at Memphis, Tenn., Nov. 9, 1887, and continued in session four days. Your representative was present during the entire session and participated in the deliberations, having been chosen a member of the advisory council. Some twenty-three States were there represented by delegates from bodies as follows: State Boards of Health, the United States Hospital Marine, the Quarantine Service, the medical department of several universities and colleges, and a number of others interested in hygienic and public sanitation. The attendance was reported at one hundred and fifty; new names enrolled, one hundred and thirty-three. I furnished your President and Secretary daily with copies of the Memphis daily papers containing a full report of proceedings. Copies of these papers are now on file in this office, and may be referred to for a more detailed account than is necessary that I should present to you at this time.

Had the Association desired to particularly commend its work to the country at large, it could not have chosen a more fitting place from which to date its communications. The Memphis of to-day, prosperous, increasing rapidly in population, and having before her a great future, is a monument to sanitary science whose testimony is irrefutable.

The years '78 and '79 the yellow fever committed such ravages in Memphis as almost depopulated her. So thoroughly infected by this dread disorder had she become that the possibility of redeeming her seemed very small. It was even seriously urged at one time that the city should be abandoned and burned, in order that the country at large might be saved from infection. Happily, better counsel prevailed. Sanitation was tried, and to Memphis no longer belongs the unenviable distinction that was once so well merited—that of being "the dirtiest city in America." Instead of four miles of private sewerage, she now has forty-five miles, constructed after the most approved plans, and needing at certain intervals only a few more flushing tanks to make the system equal to any in the land. The water supply is abundant and of good quality. Capital, after hesitating a long while, uncertain of the reappearance of infection, is now pouring in, great industries are springing up, and the claim of being one of the greatest cotton centers of the South is allowed on all hands, the receipt last year being 600,000 bales. Memphis now claims a population of 75,000.

The topics about which centered the chief interest of the session were those of quarantine and the disposal of waste of cities and towns. Indisputable testimony was offered to show that notwithstanding the steady stream of immigration pouring into this country from the cholera-infected cities of the Mediterranean, we have no quarantine measures in operation, save those of New Orleans, sufficient for the protection of the country from an invasion of that scourge.

Owing to the indefatigable labors of Dr. Holt of that city, New Orleans has a system of quarantine as efficient as could be desired, save, perhaps, that the period of the detention of infected vessels is not quite long enough. In a more extended report heretofore submitted to this Board, I have given you something of a detailed description of the quarantine measures of the port of New Orleans; space does not permit of more than a glance at these. In time of prevalence of epidemic disease, all entrances to the port, save one, are closed by proclamation. The first quarantine station of the system is at Port Eads, seventy miles below the city. There all vessels are halted and inspected. Those showing clean bills of health and hailing from non-infected ports are suffered to proceed. All others are overhauled, more or less thoroughly, according to the possibility of the presence of infection. Ships hailing from infected ports showing clean bills of health, with no evidence of infection on board, are detained at Port Eads, thoroughly washed out with scalding water, treated with a solution of bi-chloride of mercury, fumigated with vapor of sulphur, all baggage and bedding being also fumigated and disinfected; after which she is suffered to proceed to the upper quarantine station, where she is again overhauled in a similar manner. After a short period of detention, if no infection shows itself, she is allowed to proceed into port. Vessels arriving at Port Eads showing infection on board are relieved of their passengers, the sick separated from the well, the former are put into a hospital, the latter into suitable quarters, where they are kept under inspection. The ship is treated as before, only in a more rigorous manner. She is then taken to the upper quarantine station, where the scaldings and fumigations are repeated, and where she is also repainted. The sick are detained until the infection is thoroughly stamped out; the well, until what is deemed a sufficient time has elapsed to insure no further appearance of infection. In the meantime all baggage, bedding and wearing apparel have undergone repeated disinfections. No further evidence of disease appearing, the passengers are then conveyed into port by the boats of the quarantine service. All appliances used for the purpose of washing fumigating and disinfecting, generally, are of the most approved pattern, and all solutions employed are of standard strength.

The quarantine station at the port of New York, though the first in importance of any in the land, was found almost wholly unprepared when seriously threatened with an invasion of cholera. Thanks to the active interference of sanitary bodies, the sanitary and secular press throughout the land, a much improved condition of things now obtains, and it is confidently expected that the approaching summer will find the service fully prepared to meet all exigencies. Should the authorities, however, prove negligent and careless alike of the safety of their city and of the interior of which it is the gateway, we have a means of protecting our borders, to which we should resort promptly, a means suggested by by Dr Rauch, of the State Board of Health of Illinois, viz., quarantining against all trunk lines of railroad leading out of New York. The quarantine stations of Delaware, Breakwater, Sapalo Sound and Ship Island, though they cover the approaches to some of the large cities of the Union, scarcely deserve the name of quarantine stations, so wholly inefficient are they to do the service appointed to them. An effort—the initiative to which was taken at the above meeting—will be made to induce the National Government to take charge of the entire quarantine service, and furnish men and material sufficient for all purposes.

As has been said, the subject of water pollution and the disposal of the waste of cities claimed equal honors with that of quarantine. From data obtained at this meeting and elsewhere, I am brought to the conclusion that these questions have presented themselves for final solution, and will not be put away until answered. A paper was read showing that the sources of the principal rivers of Connecticut were so polluted by sewage discharged into them as to be quite unfit for use and highly dangerous to the cities drawing their supplies therefrom. Mr. Rudolph Herring, lately chief engineer of the Sewage Commission, Chicago, mentioned a number of rivers of the Northwest that would have to be abandoned as a source of water supply.

The experiments of Dr. Prudden, of New York, have demonstrated that the germs of typhoid fever are found in abundance in ice taken from the Hudson.

The present condition of the Sciota is a constant menace to the city of Columbus and the towns lying along its banks. In view of the fact that in seasons of drouth, like the one just passed, the pollution with which the water supplies are constantly surcharged, becomes highly concentrated, and that great epidemics, of which we have some foretaste in that which has swept over our State in the last few months, are likely to break out and rage with more or less violence, the demand is constantly growing for a more effectual way of disposing of waste. The answer to this demand is undoubtedly to be found in cremation. Pittsburg, Montreal and Wheeling have crematories for this purpose, in successful operation. Des Moines, Chicago, and several other cities are experimenting. At Pittsburg several economic features appear. The 1,500 degrees of heat necessary to reduce the entire mass to ashes, is made to drive the dynamo of the electric light plant. The ashy residuum is sold to farmers for fertilizing purposes.

There were many other topics of interest presented, but the ones I have mentioned appeared to me to be of so much more importance that I have chosen to use the space allotted for this report in speaking of them to the exclusion of others.

The next meeting of the American Public Health Association will be held at Milwaukee, Wis., at such time as the President may hereafter name.

Respectfully submitted.

ARE AMERICAN WOMEN DETERIORATING?

BY T. S. GALBRAITH, M. D., SUPERINTENDENT OF THE HOSPITAL FOR THE INSANE.

The assertion is frequently made, at home as well as abroad, that American women are inferior in physical development to those of other countries, particularly those of England. This charge probably originated in the minds of a class of physicians whose special practice is limited to diseases peculiar to women.

In this country these specialists have been prolific in the invention of instruments and appliances, also various operations and other formidable procedures designed for the relief of the various ailments and accidents to which women are subject. And as necessity is said to be the mother of invention, it is a natural inference that the energy and enterprise of these expert physicians should be taken as evidence of the existence of these ailments in greater frequency here, than is to be found in any other land. It is particularly claimed by this class of practitioners that the accidents following parturition are more frequent, and the ensuing results far more serious in this country than in any other.

In Europe surgeons of vast experience, presumably equal in ability to our own, and skilled in the same line of practice, do not find among the women of their country, nearly the per cent. of accidents incident to parturition, necessitating operative interference that is said to exist in this country. Hence, from the testimony of leading physicians of different countries, there seems to be some reason to believe that the physical organization of American women must be inferior to that of her sisters in other countries.

An expression relative to the constitutional peculiarities of American women was lately given by an eminent London physician*, one who, in the capacity of consultant, has had the advantages of a large experience in the observation and treatment of the wealthier classes of American, as well as English and other European women. His conclusions were, that as a rule, American women were defective in physique; that they were lacking in that degree of muscular development, which is essential to stamina and endurance; that while they, in many instances, possessed the elements of great beauty, it was of a kind that soon faded; that they had such a preponderating nervous development, as to render them susceptible to a variety of nervous diseases, and, owing to the slight degree of resisting power possessed by them, they would readily succumb to any adverse agency. This criticism seems rather severe, and is certainly too sweeping in some of its statements, but it no doubt expresses the sentiment that is commonly entertained by the people of the country from which it emanates. And yet, from our own observation and information derived from other sources, we are not prepared to say that it is wholly unjust, or even untrue.

For a people to boast of the superior beauty of their women, and to claim for them the possession of many admirable traits of character, to a degree greater than that possessed by the women of other countries, is generally looked upon simply as an outburst of sentiment which may or may not be true. If true, it is a matter for pride and congratulation; if not true, it is regarded as a harmless boast, and gives evidence only of a laudable weakness. While the manifestation of this chivalrous spirit on the part of a people is to be commended, rather than condemned, we should not be deterred from considering the matter candidly, with a view of determining what degree of excellence we are entitled to claim for American women, or if there are to be found any deleterious agencies at work, undermining the health of our girls and women, such as climatic influences, educational methods, habits of life, or vices of any kind, they should be searched out and avoided when possible, otherwise modified to such a degree that their influence for harm shall be reduced to the minimum.

It is not believed that the physical inferiority of our people, if any exists, can be fairly chargeable to climatic influences. In the vast domain of North America we have climate in such variety as to be almost endless, and in that respect we can accommodate the most fastidious. A person not suited to the rigorous and stimulating climate of the northern lakes, would probably find it more congenial and equally healthful in the mild and languid atmosphere in the region of the gulf, or at some of the many delightful places intermediate, between these extremes.

But when we come to our educational system, which is the boast of some of our enthusiastic but short-sighted people, the key to the situation has probably been found. That there is something radically wrong in the educational methods that prevail quite generally over this country, there can be no doubt. The practice of confining young and growing children several hours each day to the school-room (to say nothing of the deleterious effects of the stifling atmosphere which the average school-room contains), for successive days and months, paying no regard to out-door exercise, which is essential to normal growth and development, is a blunder that if long continued is irreparable. The blighting and crippling influence of this school-room imprisonment is particularly manifested in the faulty and imperfect physical development of our girls. The sentiment that is often proclaimed from our pulpits and taught by some pretended educators, that it is indelicate, rude, and even immoral, for girls and young women to engage in out-door sports and games, is opposed by every physiological truth. It is a doctrine that is progressive in its tendencies to evil. If it should continue to be taught and practiced for a few more generations in this country, its pernicious and degenerating effects will be apparent in the permanent enfeeblement of our race.

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*American Practitioner and News, November, 1886. "Post-partum Troubles in American Women."—London Letter.

Girls that are forced through this high pressure system of education never reach maturity. They arrive at a certain age with frail and inelastic bodies, poorly equipped for the duties of life. Maternity, the greatest privilege and destiny of woman, is illy borne by them. They may give birth to one child, seldom more. Then comes invalidism and the gynecologist for the remainder of life.

In England the people have been more wise in this respect. From time immemorial it has been the custom in that country for girls and young women to engage in out-door sports and games, in company with their brothers. With them, sport and exhilerating exercise is a part of their national creed. The sessions of parliament are so timed, that vacations of that body occur at the beginning of the grouse-shooting season. The matronly woman and lady of rank frequently don the rough dress and heavy-soled boots, suitable for tramping over the moor, to join a company of shooters, or mounted on fleet-footed steeds engage in the exciting scenes of the chase to the music of the hounds. Hence, we are not surprised at the claim of the English people, that they have in their country the finest specimens of robust womanhood that is to be found anywhere in the world.

REPORT OF COMMITTEE ON SANITARY INSPECTION OF SOUTHERN PRISON.

BY JOHN N. TAYLOR, SEC. COM.

Complaint of the sanitary condition of the Southern Prison having reached the State Board of Health, that body, in regular session, resolved to institute a second inspection for the purpose of ascertaining the true State of affairs, and presenting such to the proper authorities.

Accordingly, Drs. Seawright, Boots and Fritsch were appointed a Committee on Sanitary Inspection, and directed to make the necessary survey as soon as practicable. Dr. John N. Taylor was afterward added to the committee.

On the 13th of October, 1887, the committee made its inspection, beginning with the cells and passing seriatim to each feature requiring investigation.

The cells are small and imperfectly ventilated. They were found fairly clean, having been freshly whitewashed. No disagreeable odors could be perceived. The bedding seemed to be sufficient in amount, free from vermin, and as clean as circumstances will permit, though not so clean as should be. The want of bathing tubs and pools necessitates an amount of personal uncleanliness that is constantly manifest. A close inspection of the sheets and pillow-slips shows them to be sweat-stained and soiled, which would not be, had the men the facilities and time for bathing and change of garments they should have. This is a positive need, and should be supplied as soon as possible. The men are mostly employed in the foundry, and the evening finds them perspiring and smoke-begrimed, in which condition they are obliged to repair to their cells. To have to go to bed in such a condition as this is directly in contravention of the first and principal rule of sanitation, not to speak of the discomfort incident thereto.

The corridors around the cells were undergoing thorough renovation, and whitewash and paint were being used liberally wherever required. At intervals along these corridors are placed stoves surmounted by tall sheet-iron drums, by means of which, when required, the cells above and below are heated.

Inquiry among the prisoners, instituted with reference to ascertaining the sufficiency of these, elicited conflicting testimony. Some declared that during the cold weather of last winter they suffered considerably, while others said that the amount of heat was sufficient. This apparent contradiction is due, no doubt, to the location of the cell, and the bodily condition of its inmate. Investigation, however, reveals the fact that, in this part of the prison, there is, between the top of the wall and the roof, in many places, quite an opening, through which cold air in excessive quantities may pass uncontrolled. During the colder weather of midwinter this supply of cold air must render the cells uncomfortable to their occupants, or necessitate such a consumption of fuel as amounts to absolute waste. The closing up of these openings and the substitution of ventilators that may be opened and closed at pleasure, seems very desirable.

An inspection of the workshops and foundry showed them to be well ventilated and comfortable. The convicts seemed, for the most part, to be cheerful and to labor industriously.

The food was examined and found to be of a very good quality and sufficient in quantity—consisting of good light bread, vegetable soup, boiled beef and potatoes. This fare is varied to suit the necessities, and, in some degree, the desires of the prisoners.

The Committee found little to condemn until it came to consider the drainage, the sewerage and the general disposal of the waste. These could scarcely be worse or more at variance with all the rules of sanitation. Seen from the outside of the walls, the prison stands upon grounds whose surface is flat, almost marshy in character, having no natural drainage. One looks in vain for those evidences of the effectual disposal of waste, such as characterize modern institutions of a similar nature. Formerly, as has been stated in a previous report, the waste from the various buildings was carried along open gutters lined with brick, traversing the whole extent of the prison yard, and finally discharging into an open ditch, misnamed a sewer, on the outside. Under the present management, these are allowed to convey only waste water, while offal, night-soil and the like are carried and emptied into a pit that communicates with the above mentioned ditch. But here the change for the better ceases. This pit, situated at the northern extremity of the middle wall, contains at all times a quantity of filth that cannot, with the present lack of facilities, be flushed away. And so foul is the odor that issues therefrom that the stoutest stomach will rebel against him who has the temerity to lift the plank that covers it and look in.

The blind ditch, dignified by the name of sewer, that extends some 2,600 feet northwestwardly from the prison wall, remains permanently closed, its contents undisturbed some few feet below the surface, and will doubtless furnish effluvia enough to the surrounding neighborhood for years to come.

The present dependence for sewerage, then, consists of one open ditch, 605 feet in length, extending along the prison wall to the west. This is simply one long cess-pool, whose surface of liquid filth is rarely disturbed by any current, save when it rains. At one point in its course the accumulation is so great, and its odor so excessively offensive, that the rash inspector, who ventured forward to examine it, was compelled to beat a hasty retreat, grasping his nose as he went.

An examination of the records of the prison physician exhibits the fact that the diseases most prevalent during the past summer were such as are recognized as proceeding from poisoning by filth, viz.: typhoid fever and dysentery. These have caused several deaths during the summer, and much protracted sickness. It is true that, taken as a whole, the health of the inmates is not bad, but that the possibilities of the outbreak of a serious epidemic lie all about the prison no sanitarian can doubt for an instant. To remove these as speedily as may be is the part of wisdom and of humanity.

The committee concluded its labors by surveying a line along which an efficient system of sewerage may be projected most successfully, and at a moderate expense.

From the southwest angle of the prison wall to the Ohio River is a scant half mile. The incline from the level of the wall to that of the river must be at least fourteen feet. Converging lines of pipe conveying the sewerage from all parts of the prison to this southwest angle may discharge rapidly into the falls of the Ohio by means of an 18-inch main. Once in the rapid current of the falls the disposal is effectual.

Another mode of disposal is by cremation. A crematory like that of Pittsburgh or Montreal, but of much less capacity, might be operated very successfully in disposing of garbage and night-soil, while at the same time it might be made to serve other economical purposes, such as furnishing heat necessary for driving machinery, etc.

It is the opinion of the committee that the officials having in charge the prison are in no wise blamable for the present condition of things within and without its walls. On the contrary, it appears that they are doing the very best they can with the exceedingly limited facilities at their command. The city of Jeffersonville should bear some small share in the cost of taking away the menace and reproach which the present condition of the Southern Prison presents, for should cholera, or any of the disorders known to have their origin in filth, become epidemic, that city would suffer severely, as has already been indicated by the number and fatality of the cases of typhoid fever occurring in its borders this season. But the State should act promptly in the matter without waiting for the coöperation of other parties: Compared with similar institutions elsewhere, the Southern Prison is far below the standard in every particular. The lives of the inmates are constantly menaced, and, as has been said before, the possibilities of an epidemic are present and in some degree active.

DRINKING WATER.

[Read before Vanderburgh County Medical Society by J. W. Achilles, M. D., Evansville, Ind.]

Mr. President, Gentlemen:—In view of the fact that the tendencies of current medical thought and research are no less in the direction of prophylaxis than in that of therapeutics; that, while on the one hand new remedies and improved methods of treatment are constantly added to our resources in the battles against human ailments, the importance, for the well-being and health of every community, to secure pure water, pure air and pure food has never been appreciated by medical men in a higher degree than at the present time, it thus seems to me that reference to these or allied topics may not be out of place before this Society. As to my remarks this evening, I shall limit them to the first mentioned—namely, the importance of pure drinking water.

The water used in various parts of this city for drinking and household purposes is far from the standard of purity which the most simple hygienic rules require; and it is surprising how carelessly many imbibe the yellow-tinted residue of some cisterns, apparently unconscious of its deleterious influence and disease-breeding action. It has been said that the cisterns of this city compare favorably, as to construction, capacity, impermeability, manner of location, etc., with those of other parts of the country; but it is not difficult to comprehend how easily pollution of such a reservoir of water may take place, even in the best constructed ones. Not only by considering the source of the water—roofs, not always irreproachably clean—but even if the impermeability of the cistern walls exclude drainage from surface water, neighboring cess-pools and the like, there are yet many possibilities for the access of organic material, such as from rotten framework, wooden pumps, or objects accidentally or carelessly dropped into the cistern. Adding to this the scarcity of water by prolonged absence of its natural source, rain—in which case the small remnant of the water consists of a concentrated solution, and a vehicle of all the impurities present—it may well prove a cause for alarm in those who are convinced that such diseases as typhoid fever, cholera, diphtheria, dysentery and perhaps many others may be caused by impure drinking water.

Besides cistern water, that from the river, as supplied by the water works, is extensively used. It is believed by many that running waters are freed by oxidation from all injurious pollution, such as sewage, the dejection of disease, decaying vegetable or animal matter, manure from cultivated lands, washed into the river after periodical rainfalls, and the like. But such oxidation has been observed, by those who are competent to judge, to be very slow. Disease germs were known to be carried by polluted waters for many miles unchanged, becoming apparent by their specific injurious effects. It has also been approximately ascertained that a flow of from 200 miles or more distance is necessary to free the water, by oxidation, from the impurities mentioned.

Whether these conditions are generally fulfilled in the case of our rivers may be inferred from their topography, the distance between cities lining their banks, and such other sources, mentioned as more or less active, modifying or polluting the water. 'What such pollutions may be in the vicinity of great centers of population may be realized from an item I noticed in a recent periodical, where, under the head of "An Attractive Stream," it is stated that during the year 1886 were removed from the River Seine, near Paris, France, 6,875 dead animals of every description, 6,000 pounds of spoiled meat, besides a great number of human bodies.

Well water is used in this city only to a limited extent. Several specimens, which I had occasion to examine, although containing the usual mineral ingredients, were remarkably free from organic impurities. The water from shallow wells depends for its purity on the condition of the soil over which it flows or through which it filters. As a rule, it is heavily contaminated in populous districts, and, under such circumstances, unfit for use as a drinking water. The water from deep wells and springs, if protected from contamination of surface water by thick beds of clay, or by intervening rock formations, is usually comparatively free from organic substances. Excess of mineral salts in solution may, however, render it unfit for use as a drinking water. The presence of minute quantities of iron need not be considered an objection to the constant use of the water.

The foregoing remarks are not intended to convey the idea that water from any of these sources is invariably and at all times to be considered injurious to health. The condition of supply may be such that no suspicion of contamination can arise, and that while the water may not be free from foreign ingredients, yet may not be injurious to health. Absolutely pure water, the H_2O of the chemist, is not found in nature, nor is it aimed at for the purpose here in question. If rain water were collected in a region distant from human habitations into reservoirs scrupulously clean, it would come very near to the standard of chemically pure water obtained by distillation. Yet even such water would contain minute portions of impurities from the atmosphere besides air and Fresenius found in carefully distilled water from a glass-retort and Liebig's condenser, a solid residue, on evaparation, of 1 part in 23,500 parts of the distilled water. It will thus be seen that water perfectly pure in the chemical sense of the word, whether obtained from the clouds, from lakes or streams, or from wells of any depth, must not be expected; the point of interest is to ascertain whether the impurities present in the various sources of supply are of such a character, or present in such quantities, as to prove injurious to health by constant use.

A true basis for judging of the purity of water can only be arrived at by chemical analysis and microscopical examination. Very precise analytical methods have been devised to ascertain the mineral constituents of potable water, but as it was found that nearly the same minerals, only in slightly varying quantities, were present in most waters, and that unless present in excess they had no injurious effect on the system, the attention was mainly directed to the organic matter present in the water. Excepting the rare, and usually avoidable, metallic contamination, such as from lead pipes and the like, it is to the quantity, and especially the quality, of the organic matter present in the water that its unwholesomeness is due, and to determine this with extreme precision, then, would seem to be of paramount importance.

Among the methods used to determine the organic matter in water, that of Wanklyn, Chapman & Smith, depending on the conversion of the nitrogen of the albuminoid (that is, the organic) substances into ammonia, is usually preferred. It consists in distilling parts of a definite quantity of the water to be examined, and determining in the distilate the amount of ammonia by Nessler's test; this is called free ammonia. To the remainder of the water in the retort a solution of potass. permanganates and potass. hydrate is added, which changes the organic (or albuminoid) substance into ammonia. The ammonia thus formed is then also estimated by Nessler's test, and is called albuminoid ammonia. This latter amount of ammonia, as it has been formed from the nitrogen of the organic substance present in the water, by the action of the permanganate and hydrate of potassium, must necessarily correspond in amount to the same.

If we consider in this connection that sometimes the danger lurks in the quality rather than in the quantity of the organic matter present, it becomes apparent that even the most delicate and exact results of chemical analysis leave much to be derived as an irrefutable criterion as to the wholesomeness of any given water, for experience shows that certain water with absolutely less organic matter in suspension or solution than others, have been found to be more injurious to health than these. Collateral research is thus required to ascertain the probable source of the impurities. But, as a rule, water from any source should be considered suspicious if containing more than 1 part in 100,000 parts of free ammonia and more than ·8 parts in 100,000 parts of albuminoid ammonia.

The presence of chlorine is only of importance when its source can be traced to contamination by sewage. In well water, if derived from mineral chlorides, corresponding in amount to the average of the region or district, it is of comparatively little significance. In all other water its amount should not exceed 1 part in 100,000 parts of the water. The estimation of chlorine may be effected by solution of silver nitrate, either by the grooimetric or volumetric methods.

The nitrates and nitrites, if present, are the products of slow oxidation of organic impurities in waters exposed to the action of the air. The nitrogen of decomposing organic substances, combined with oxigen from the air, is successively changed into nitrous and nitric acids, which then combine with basic substances present in polluted waters and form the nitrates and nitrites. If approaching in amount to 20 parts in 100,000 it indicates a dangerous degree of pollution. The most exact method of estimation of nitric acid or nitrates in water is that based upon their decomposition by ferrous chlorides and collection over mercury (as solut. of sodium hydrate) or nitric oxide gas, but approximative good results may be obtained by the more simple method, depending on the discharge of the color of a standard indigo solution. Nitrous acid is estimated by the zinc iodide-amylum, colorimetric method.

The degree of hardness and the determination of saline constituents (with the exception of those before mentioned) are only of subordinate significance. Unless greatly in excess, as in the so-called mineral waters, their presence has no appreciable effect on the health of the consumer. Such are: Small quantities of calcium, magnesium, sodium, potassium respectively as carbonates, sulphates, chlorides, etc.

Microscopical examination may show in addition suspended particles proving injurious by mechanical action. While some of the living animal organisms occasionally found in drinking water are consumed with apparent impunity, it can not be denied that there are others which give rise to serious intestinal disorders. Their presence always indicate organic impurities, serving to them as food and points to putrefaction. It is safe, then, to say that any water which exhibits the lower forms of life, such as bacteria or fungi, is unfit for use as a drinking water.

When considering in connection with the preceding remarks the consequences of a remarkably dry summer, with water famine threatening many districts of the country, public health could not fail to resent the evil effects thereof, while no sanitarian can consistently disregard the importance for the people of the purest drinking water obtainable. But as most people are limited to certain sources for their water supply, how may this end be attained?

Whenever the suspicious nature of a water has been recognized, it should be thoroughly boiled and filtered before use. The filtering material might be charcoal, sand, porous earthenware or other approved material, but preferably a combination of several of these. In the presence of organic matter in solution, charcoal is the most important among them. Whichever of the materials may be used, they should be exposed to a sufficiently high degree of temperature to destroy any incidental organic impurities which might contaminate them. Charcoal, unless freshly calcined, might be saturated by noxious gases, and should be heated in a covered iron vessel to expel them before forming part of the filtering material. The details of construction, if the principal object, thorough filtration, is attained, may be safely left to the ingenuity of the manufacturer. A filter which I have tried with satisfactory results consists of two compartments—an upper one for the water to be filtered, and a lower one forming the receiver. The upper part is a cylinder, fitting in the rim of the receiver, and has a porous bottom, forming a diaphragm between the two compartments. Alternate layers of charcoal and white sand complete the filtering material. The whole consists of earthenware, and recommends itself for its simplicity, efficiency and cheapness.

It remains for me in this connection to call the attention to a simple and sufficiently delicate test to form an opinion, or to at least approximatively ascertain whether a given water may or may not be used for drinking. In view of the fact that a thorough chemical examination can be thought of only in exceptional cases, the busy practitioner may apply such a simple test without much loss of time for the benefit of his patients or friends.

Such a test is a modification of the familiar permanganate of potass. test. W. E. Stobles, of London, found that by adding hydrate of potass. of proper strength to the permanganate the albuminoid matter, which passed unchallenged by the permanganate alone, was thereby brought under its influence, the proportion he recommends are as follows:

Potass. permanganate	1 p.
Potass. hydrate	4 p.
Distill. water	160 p.

If a minimum of this solution be added to distilled water in a glass or test-tube, the beautiful pink color imparted to the water will remain unchanged for several days. But if similarly applied to water containing the slightest trace of organic matter there will be a brownish precipitate, with loss or entire discharge of the color of the test solution. Numerous comparative experiments have shown that if such reaction takes place within a few hours the quantity of organic matter present is such as to be injurious to health.

HEALTH IS WEALTH—DRAINAGE.

BY F. M. HACKLEMAN, M. D.

There are few Americans who can read that description of Eden, by the immortal Dickens, without feeling a spirit of resentment—without feeling that he did a gross injustice to the land of liberty and freedom, and to the home of the poor, the oppressed and the outcast of every nation. That the flat morass described by him, in which everything that grew "took the aspect of huge weeds begotten of the slime from which they sprung, by the hot sun that burnt them up, and when fatal maladies, seeking whom they might infect, came forth at night in misty shapes and creeping out upon the waters, hunted them like specters until day"—that such a morass, such a cesspool of contagion ever existed in this boasted land of freedom, few are willing to admit. Notwithstanding his keen satire and profuse hyperbole, which many believe came from national prejudices, I am inclined to think that should some pilgrim, free from prejudice, have passed down the Ohio River fifty years ago from Rockport, Ind., to where Pigeon Creek empties, dividing Spencer and Warrick counties, and which includes a portion of the "Pocket," that his natural exclamation would have been "Eden!" I doubt not that he would have strained his eyes in his endeavor to catch a glimpse of the immortal Chollop, and the cabin where young Martin and Mark Tapley passed their first night.

But this dismal, gloomy picture has passed away; that swamp, wherein only vile things lived and grew, has been transformed into beautiful fields, made rich, beautiful and picturesque by the products of civilization; that swamp where lean, lank, sallow, ague-shattered Chollops lived, has been reclaimed, and health blossoms on the brow and energy looks forth from the eye of the new Edener.

Naturally we ask, "What wrought these changes?" How these swamps were made into rich and beautiful fields, and how a country once so infected with disease has become almost freed from its plagues. It is due to the fact that many of the former citizens were made of "sterner stuff" than Martin Chuzzlewit, and with ax and spade in one hand and a bottle of quinine in the other, they went to work clearing the lands and draining the swamps. True the undertaking was one that required courage and will, as it required a ditch for almost every tree, while a bottle of quinine went along with the two. Gradually the forests were cleared away, and ditch after ditch was dug by the citizens, who continued their work uncomplaining, believing that some day they would reap their reward. Perhaps many never lived to see the bread which they cast upon the waters return, or to behold the fruitful results of their labor. One of the largest ditches, known as the "Willow Pond Ditch," traverses the southwest corner of the county, being something over seven miles in length, the greater portion of which was constructed through a low flat marsh, which was covered with water all the year. While ditching the men were compelled to stand on plank to prevent sinking into the marsh, and a fence rail could be forced its full length into the ground by the efforts of one man.

The ditch drains into Pigeon Creek, and, together with its tributaries, some three or four in number, it drains between three and four thousand acres.

The portion of country which this ditch drains—once the home of the frogs, as well as the manufacturing establishment of intermittent and remittent fevers—is now some of the most valuable land in our county.

The Richland and Walter's drains, also in the same portion of the county, the former six and the latter four miles in length, drain considerable territory, while there are quite a number from one and a half to three miles in length. Last summer one of the largest ditches was begun, and completed a month or two ago. It is about seven miles in length, beginning about two miles below Rockport and running thence southwest parallel with the Ohio River, draining into the river. The land reclaimed by this drain, amounting to several hundred acres, will make first-class farming land out of country once so wet that it was of little use save to breed chills and fever.

Thus between 7,000 and 8,000 acres of land have been drained, and land which was once considered little better than a waste is now yielding bountiful crops.

Health makes wealth, and, that wealth may be secured, it is necessary that the laws of health should be carefully observed, and that hygienic measures should be well and carefully considered. People have long since learned that little good can come of punishing or combating an effect while the cause which produces it remains, and perhaps none have learned it more thoroughly than those who lived in malarial districts, and who with quinine in hand fought the effects of malaria without trying to remove the cause. It is through experience that we are taught the most valuable lessons in life.

The malarial resources have been almost entirely cut off, the cause removed, and the percentage of malarial fever has been reduced to insignificant proportions. A few years ago scarcely a man, woman or child escaped intermittent fevers in the vicinity of these ponds during the year, while now the disease is quite rare. As disease has decreased, wealth has increased.

Beautiful homes, around which cluster all the beauty and refining influences of civilization, are now to be seen in this "Eden" tract, dry land has taken the place of the wet land, health has supplanted disease, and wealth and affluence may now be seen where poverty and disease once walked hand in hand with desolation and despair.

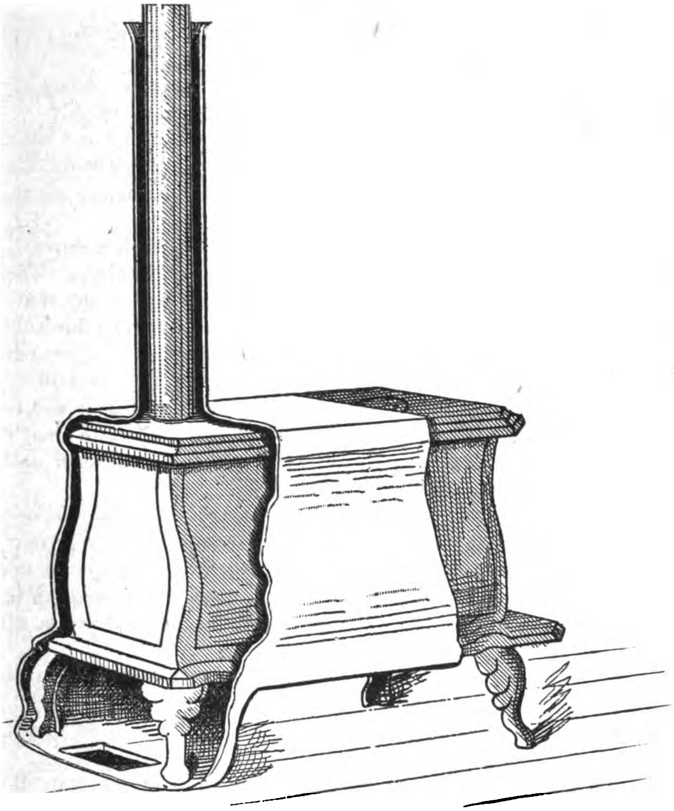
VENTILATION WITH A WOOD-BURNING STOVE.

BY JOSEPH A. STILWELL, M. D., BROWNSTOWN, IND.

The latest improvement in ventilating has not yet reached the wood-burning box stove, so common in our wooded country. While it is doing more for the health and longevity of the human race than any other addition during the present century, it is in use only with coal. The object of this paper is to give some directions by which it can be adapted to the common wood-burning box stove. This can be done by making an outside shirt or cover of sheet iron for the stove. Any tinsmith can make and mould a cover around a stove of this kind, with reasonable permanency and unexceptional cheapness. Let the sheet commence just back of the forward legs at the bottom, and extend obliquely upward and backward to leave exposed the fuel door, and a hole on the top. Pass around the stove in this way and under the back feet and legs. Between the back feet let a hole be made through the sheet and floor, and connect with a fresh air tube extending to it from out doors. Let the cover continue around the smoke pipe nearly to where the pipe goes into the wall of the house. The accompanying diagram will aid in understanding this. The sheet iron will have to be left standing off from the walls of the stove a few inches. This will, when the stove is heated, fill the room with fresh warm air, very quickly.

In order to keep the room filling all the time it will be necessary to empty it just as fast and to keep it warm at the same time. This can be done by having a brick flue commence at the floor, or below, in the wall, in connection with the smoke flue, so that the smoke will warm it. Let an opening be made into it at the floor. This will draw the air from off the floor up through it as fast as needed to empty and make room for the fresh, warm air; will not allow a current in the room either. But after the air is used and cooled somewhat, will carry it away as foul air, which it will be by this time. Fresh air warmed and carried into the room rapidly, presses down from the ceiling and forces the air out up the flue warmed by the smoke back into the open air at the top of the chimney.

This is a simple thing when studied a moment, and is being utilized very largely with coal stoves and furnaces. It has all that can be accomplished in the way of ventilating heated rooms, and is all that is needed. It furnishes all the heat that a stove can furnish, and carries with it the fresh, pure air from outdoors, and at the same time carries away the air that is poisoned by the breath and exhalations from the body, making the changes very rapidly when great heat is required. It makes the temperature equal all over the room.



Any one can calculate in a few minutes the effect this will have on the life and vigor of those using it.

Of course these principles and admonitions have all been used and made time and again, but their superlative importance is sufficient excuse for giving them a place wherever opportunity can be made.

THE DRY CLOSET SYSTEM OF DISPOSING OF EXCREMENT.

BY JOSEPH A. STILWELL, M. D.; BROWNSTOWN, IND.

This is worked on the same principle as that by which mines and tunnels are ventilated.

The thing of primal necessity is a shaft or chimney that will conduct a column of air so high above us that its output will be beyond our breath supply.

This is necessary in order not only that the foul air may be placed beyond our reach but that it may be thrown out into a wide range of atmosphere, where the great law of the diffusion of gases will scatter and mix it in such a manner that its noxious properties are destroyed.

In mine ventilation the shaft is sunk into the earth until it reaches the mine at a place farthest from the shaft by which the mine is being worked. Then heat is made by fire at the bottom, which lifts the air to the top of the shaft above ground, and by the vacuum thus created fresh pure air is invited down the work shaft and carried through the mine to the ventilating shaft. A circulation of pure air is in this way supplied to the miners and the foul air carried off

The dry closet is made at the bottom of a stack shaft or chimney and heat applied at this point. The heat raises the air and carries with it the foul volatile matter of the excreta. Volatilization and evaporation are continued until only the dry residue is all that remains.

To accomplish this a shaft or chimney with a stove at the bottom, or a lamp may do all that is needed, with privy seats so arranged that a current of air will be conducted from the outside, under them, or through the holes, to supply the rarified space about the heated stove. So long as the heat is kept up this current and vaporization will continue, and the drying and neutralization will take place.

To make this better understood the diagram on the following page has been furnished.

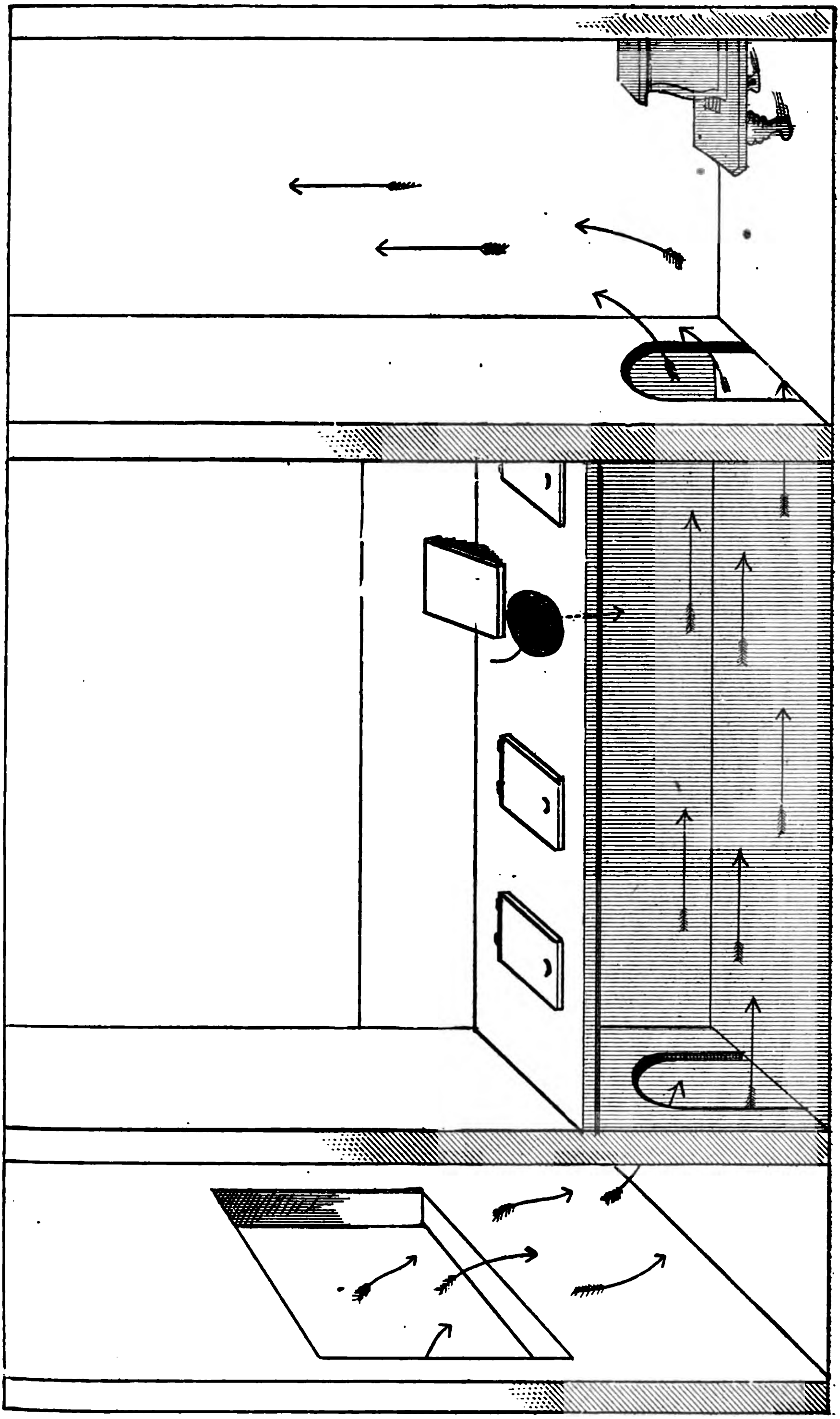
Testimony that will establish the practical application can be furnished, of which the following is prominent:

Dr. T. Clark Miller, of Massilon, Ohio, then president of the State Board of Health of that State, has taken pains to examine and report on the efficiency of this system, says: "It is almost a new sun in the sanitary heavens." He had the firm of Isaac D. Smead & Co., who are putting in apparatus of this kind, employ Prof. Kirchmeier, of the N. W. Ohio Medical College, examine and make a report of the working of the closets of this firm. The Professor says that they are doing all that is needed, and far better than any system known.

Dr. Van Pelt, Health Officer of Toledo, Ohio, also reports: "I regard the Isaac D. Smead system of dry closets healthful in every way."

Mr. P. D. Bricker, of Jersey Shore, Pa., says: "The dry closets are efficacious, novel, and highly appreciated by us, as they work well."

A special committee of the Board of Education of Englewood, Ill., August 5, 1886, reports: "We inspected the building (a school building in Toledo, Ohio) very thoroughly. Each vault was about 24x3 feet and 20 feet long. These are connected with a ventilating shaft, which is 4x5 and 69 feet high. In the base of



the shaft was an iron furnace with a very moderate fire in it. Nothing had been removed from either vault since they were erected one year ago. *The door at the end of the girl's vault was wide open, and closet connected directly with the janitor's living rooms, all the doors being wide open.* In approaching this vault, and even in standing within the vault door, *there was not even a suggestion of disagreeable odor.* We were astonished at the small amount of excrement left after a year's use by 800 children, showing that almost all of it goes up the flue as vapor.

"We tested the draught through the privy vaults with an anemometer, and the result showed a passing 1,250 cubic feet per minute in each. It must be remembered that the mercury on the outside of the building stood at 85° and 90°. We burned some of the dry excrement in a furnace fire, and it burned as readily as cannel coal."

In the same report of another building this committee says: "*Five hundred children have been in attendance at this school, and no excrement has been removed for two years.* We went into this vault and found no disagreeable odor whatever. There was no fire in the ventilating shaft, but the current of air from the closets was very strong. In the boys' closet some holes had been bored through the floor into the vaults for the accommodation of urine accidentally spilled. Tested with a match there was found to be a strong current of air down through the auger holes. The vaults could be easily cleand by one man in two hours, and the system works perfectly, and the entire cost was less than one hundred and fifty dollars."

Dr. G. W. Keely, a member of the school board of Oxford, Ohio, after reciting the encomiums of various parties whom he came in contact with on a tour of inspection of school apparatus, says:

"At the South-street school building, Toledo, we saw the best test of the dry closet system. This is an eight-room building. The Superintendent and janitor informed me that at least four hundred pupils had been using these closets for two school years, and that the vault had never been cleaned. I examined the vault carefully, crawling by the side of at least three stalagmites made by deposits from the boys, striking them with my cane. They were hard and dry, and it seemed to me that a bushel basket would hold all the vault contained. When necessary to clean the vault the deposits can be pushed into the foul air flue and burned."

D. W. Jefferis, of Chester, Pa., in a paper read before the State Sanitary Convention at Philadelphia, says:

"Somebody has said that he could judge of the civilization of a people by the condition of their privies. Between the foul-air-gathering rooms and the ventilating shaft we have placed our closets. Through each set of closets will rush 150,000 cubic feet of dry, warm air every hour. This air has already accomplished the two-fold purpose of warming and ventilating the rooms above, now is called to another office as it sweeps up the big chimney, carries with it all the moisture and bad odor of the excreta, leaving behind only a small quantity of inodorous material, which burns readily, and which may be actually burned *in situs* or thrown into the furnace. No mal-odor can possibly reach the school-room."

The apparatus necessary to the most economical and efficient application of the system is as yet limited to that of Isaac D. Smead & Co., Toledo, Ohio, so far as I am able to find, and to whom I am indebted for the references to prove their effectiveness, and of course whose acts in the premises have to be taken with the much swallowed *cum grano salis*. But they forestall objections by guaranteeing satisfaction.

But *per contra* what have we? The privy vaults and cesspools are the same authorized by Moses, and have not been improved since the Children of Israel crossed Jordan to the Promised Land after the exodus. And without any intent of disparaging the sanitary regulations of the translated law-giver, must say, after four thousand years of experience, that they are methods of hiding a poison, filling the earth with traps and snares to destroy those who follow us; that the germs of pestilence and death thus planted and cultured, carrying yearly victims to untimely graves, is the reproach of the system, and mankind cries aloud to be spared.

The sewer, while it has a fair appearance in many respects, is only passing the evil to the next neighbor, with the compromise that it shall continue to pass, but finally is stranded on the first shoal of river or bay, only to be compromised with again by some new contrivance and expensive outlay. London has two thousand miles of sewer, at an expense of one hundred and fifty millions of dollars, and her filth on hand yet. New York, only a short time since, had an estimate for repairs on her sewers, amounting to six million dollars.

If you wish to puzzle a man of science, who has given attention to the subject, you only need ask him what is to be done with future accumulations of effete matter.

The theory of dry closets is very simple. The practical application is simple and efficient. Instead of hiding away in pits and sinks—traps and snares for the unwary—or slushing miles of filth into rivers of pollution, and passing it from hand to hand, the giant is to be strangled in its cradle by the constant watchfulness of draft and evaporation.

When every house shall have a shaft to evaporate its filth; when the human brain shall set down to cheapen and render efficient this system, then sewer and vault will be the adjuncts of the drying process.

Permit me to imagine a large city, having every habitated point set with a drying shaft; having the accumulating filth continually on the move upward, and by this means constantly creating space to gather in pure air from the hills and valleys, rivers, lakes and seas; from where contamination has been spared in the same way; imagine the new impulses, the growth of brawn and brain, the profits, the pleasures, giving life all a new lease and deeper leasehold where aggregation means growth, instead as now, decay and death.

If vital economy and health genesis is the purpose of these public boards, and that they are no one who observes their efforts will deny, then the questions and knowledge regarding them should be laid before the millions who are the inevitable partakers of their fruits, be they good or bad, in such a manner that they who are the final arbiters may see and feel the right, and select with intelligence and correctness.

NEW USE OF OUR MEDICAL LAW.

BY H. W. TAYLOR, ATTORNEY AT LAW AND PROFESSOR OF HYGIENE AND SANITARY SCIENCE IN THE INDIANA ECLECTIC MEDICAL COLLEGE.

If the medical law in the State of Indiana is to be given the interpretation which it may be fairly argued is put upon it by the Supreme Court of the State, then, perhaps it would be well for the State Board of Health to consider whether under this interpretation it is not their duty as well as their privilege to abate the patent medicine nuisance once for all.

The doctrine that it is within the power of the State to interfere in the private concerns of her citizens so far as to fix a standard of qualification for those who presume to take charge of the health and the lives of their fellow citizens, seems to be well settled. The absolute fairness and justice of the workings of this doctrine would, it is true, be much more apparent were it possible to determine the actual qualifications of practitioners upon their apparent qualifications—that is, to make the possession of a license under our law the absolute guaranty of the possession of actual skill on the part of the licentiate. Under our present law such a degree of accuracy can not be attained. Only under a well devised system of frequent examinations before the State Board of Health and the granting of license based upon the percentage determined for the licentiate upon his examination can the best results be had, since a rigid surveillance of the medical colleges of the country can scarcely be brought about.

But the law is a step in the right direction, and, as I have heretofore hinted, probably comprehends much more of active interference in behalf of the public health than has been thought even by the State officers having this matter within their official functions. In short, I am led to believe that under the interpretation given this law by the Supreme Court every sale of a patent medicine or a proprietary medicine except upon the prescription of a duly licensed practitioner of medicine is an infraction of the law, provided, of course, that the medicine is sold for the use of some resident or citizen of the State. Moreover, every "treatment" of any citizen by electricity, or by laying on of hands, or by animal magnetism, is an infraction of this law if administered by any one not having a license to practice medicine in the county in which he practices.

In the case of Eastman *vs.* State, decided so recently as January 25, 1887, not only the validity of the law itself is sustained by the Supreme Court of Indiana, but in discussing the grounds for medical legislation certain propositions are so stated as to afford definitions of what is to be included in the practice of medicine, and, therefore, indicates fairly that certain acts done without authority, although not specifically named in the decision, are in violation of the law. The Supreme Court says:

"The practice of medicine and surgery is a vocation that very nearly concerns the comfort, health and life of every person in the land. Physicians and surgeons have committed to their care the most important interests, and it is an almost imperious necessity that only persons possessing skill and knowledge should be permitted to practice medicine and surgery. For centuries the law has required physicians to possess and exercise skill and learning, for it has mulcted in damages those who pretend to be physicians and surgeons, but have neither learning nor skill. It is, therefore, no new principal of law that is asserted by our statute; but if it were, it would not condemn the statute, for the statute is an exercise of police power inherent in the State. It is, no one can doubt, of high importance to the community that health, limb and life should not be left to the treatment of ignorant pretenders and charlatans. It is within the power of the Legislature to enact such laws as will protect the people from ignorant pretenders and secure them the services of reputable, skilled and learned men, *although it is not within the power of the Legislature to discriminate in favor of any particular school of medicine. When intelligent and educated men differ in their theories the Legislature has no power to condemn the one or approve the other, but it may require learning and skill in the school of medicine which the physician professes to practice.*"

I have underscored that portion of the opinion which relates to discrimination for and against different schools in medicine, because it sets at rest the only existing objection to the every way worthy plan universally favored by physicians and intelligent laymen of transferring the function of licensing physicians from the County Clerk to the State Board of Health, and further amending the law by adding a clause granting license upon an open examination by the Board of Health. The next General Assembly, it is very generally thought, should so amend the law as to bring about these very desirable changes, since our present law does not prevent the banding together of three or more mountebanks who present a bogus diploma or false affidavits upon which a license is secured, and the charlatans are up and away before the fraud can be proven. Upon this branch of the subject something more will be said hereafter.

Again the Supreme Court say:

"It is the purpose of the statute to prevent persons who do not possess the necessary qualifications to practice medicine and surgery, from inflicting injury upon the citizens, by undertaking to treat diseases, wounds and injuries. It is the plain intention of the statute to keep out of the professions of medicine and surgery all who do not possess learning and skill sufficient to enable them to properly discharge the duties incumbent upon members of those honorable professions, and courts have no right to create an exception which will defeat that intention. It is immaterial whether the person who undertakes to treat diseases or wounds does it for hire or not, for unless he is qualified as the statute requires he must not undertake the treatment of diseases or wounds at all. *The court can not divide professional persons into classes, and assert that one class is within the law and the other not, for the law applies to all who assume the responsible duty of treating the sick, wounded or injured citizens*, as well those who expect compensation for their services as those who do not."

Now, under this broad ruling it is very clear that any one who undertakes to treat the sick or wounded must be licensed to practice medicine or surgery or his acts are in violation of this statute. Is the vender of proprietary and patent nostrums, then, within or without this law?

The word "treat" can have no more than its ordinary signification, and this is what is understood in general by the word "treat" as used in relation to the practice of medicine. So used it must be held to signify anything used or recommended for the cure or relief of diseases and injuries.

Can a medicine or drug be sold for human use without implying necessarily the previous recommendation of some person? Clearly not. Does the recommendation of the proprietor or vender constitute simply an ordinary mercantile act, although that mercantile act has the effect of subjecting the purchaser of a nostrum to the very danger against which he is sought to be protected by this law? This question precludes any other answer than the negative. The assumption of the vender of patent and proprietary medicines that his act is merely an ordinary mercantile act will not serve him in face of the declaration of the Supreme Court that "the courts can not divide professional persons into classes, and assume that one class is within the law and another not." It is the acts of a person that make him a professional person or otherwise. And the fact that the vender of nostrums is at the same time engaged in other pursuits can not interpose to obscure his attitude in assuming to "treat" sick and injured persons, nor be used to take him out of the application of the statute. The vender of a nostrum is bound either as principal or agent by the printed labels and wrappers accompanying the compound, and these invariably abound in extravagant promises not only to "treat" but to "cure," an undertaking involving, in almost every instance, an amount of "skill" and "learning" that no educated and really learned practioner of medicine ever assumes.

Very clearly, then, the selling of a nostrum, except upon the prescription of a licensed physician, for the use of any sick or wounded citizen, is in violation of the law. Nor can the private citizen, upon his own motion and without the prescription of a licensed physician, purchase and use upon himself any medicine whatever. He can no more be permitted to endanger his own life, limb and health than he can be permitted to endanger those of other citizens.

Nor can this law be ignored because of mere oppressive and unjust workings. The opinion quotes Judge Cooley as saying: "Nor can a Court declare a statute unconstitutional and void solely on the ground of unjust and oppressive provisions, or because it is supposed to violate the natural, social or political rights of the citizen, unless it can be shown that such injustice is prohibited, or such rights guaranteed or protected by the Constitution." Cooley Const. Lim. (5th Ed.) 197.

Upon this view of our statute it is the imperative duty of our State Board of Health to take immediate action looking to the bringing of a test case up before the Supreme Court for final adjudication of this question, since it is conceded by all skilled and learned men in medicine that the promiscuous and unadvised use of drugs and nostrums by the citizens is one of the greatest sources of injury to the public health.

VITAL STATISTICS.

BY J. S. ARWINE, M. D., COLUMBUS, IND.

Originally the word "statistics" was used to denote inquiries into the political condition of a State or Government, but about the close of the seventeenth century the meaning of the word appears to have been extended, or made to apply to subjects which were only remotely connected with politics. However, let us bear in mind that statistics in some form or other has existed as long as States or Governments have existed.

It was probably one of the first acts of the first regularly organized Governments to number its fighting men, that its officials might be the better enabled to levy with accuracy the amount of tax that could with propriety be collected from the remainder of the people.

Achenwall is thought by some to be the father of modern statistics, and it is generally admitted that it was his effort that gave the study a prominent place in scientific pursuits, though Conring, a professor of medicine and politics in the University of Helmstad, as early as the year 1660, frequently discussed and analyzed the circumstances tending to affect the public health and happiness of the people generally. However, it was reserved for a Prussian clergyman to introduce the idea that the population of this world was governed in their movements by laws, and that such phenomenon recurred with such regularity that it might be foreseen by careful observers.

This gave the public mind a new interest in statistics, and established its progressive character according to the principles of mathematics, as the most useful means of investigation, as human society is an aggregate, so far as the individuals composing it are concerned.

They, like nations, are changing every moment of time by the operation of laws, though human society appears to remain the same, despite this ever changing and constantly renewing of particles. Therefore, the only correct means we can use to ascertain these changes in human society is that of statistically grouping the individuals composing social organizations, year after year.

But still in our day of culture there is found much opposition among the educated to sanitary science. Especially do they direct their opposition to public sanitary inquiries into the nature of human society, on the ground of public economy.

But the London Statistical Society, which was organized in the year 1835, had, without doubt, a most potent influence in carrying out statistical investigations, so that at the present time most of our modern writers claim that statistics is a science which especially relates to the social life of man, and that as a method of investigation it may, with propriety, be applied in all scientific investigations, where a systematic statement or explanation of actual events are desired. In this way the laws of man's social life may be deduced from the statements made on a basis of the quantitive observation of aggregates. This being true, statistics in an extended sense may be called a method, but in a restricted sense it becomes a science, which proposes the study of the actual possibilities of man's social and political life, by mathematical induction, which is the only correct method of making the facts perceptible in relation to the constitution of society, upon which sociology is based But statistics will never furnish facts sufficient to enable sociologists to formulate a correct theory of life; they can only give quantitive expression to certain facts.

It is the office of statistics to systematically arrange figures so that an observer may perceive a *phenomena* at a given time, or the *accretion* which may occur during a given time.

There is a great variety of statistical matter published annually by the various departments of our Government.

To this class of statistics we are indebted for our information in regard to the schools, public charities, etc., in our State. All the heads of departments in our general government publish statistics for which they alone are responsible.

I believe that the government of England was first in enacting a law in regard to *vital statistics* which was first done in the year 1837, then in 1847.

It seems strange that a matter of so much importance should have been overlooked so long, when we remember that history says that until the middle of the seventeenth century the plague, the most distressing of all contagions, had spread over Europe sixteen times, depopulating cities, towns and countries, filling their inhabitants with consternation, sorrow and distress, such as beggars' description. Still no one thought seriously of its being a contagion. Then all epidemics were thought to be scourges, sent from heaven, whose progress no human hands could stay. Therefore, it was the early part of the seventeenth centure before preventive measures were earnestly considered. I believe the authorities of the city of Marseilles were the first to adopt rules and regulations to prevent the spread of contagious disease. And the success which attended the enforcement of the wise and strict regulations then adopted attracted the attention of thoughtful men throughout all Christendom, and led to the organization of Boards of Health, who are charged with the special and responsible duty of devising ways and means of protecting the public from contagious and infectious diseases, and of studying all disease-producing causes, that they may be able to point out such causes and direct their removal, that the health of communities and the public in general may be preserved. This system of investigation has led to the establishment of quarantine stations, this being the best mode now known of protecting the public from invasions of pestilential diseases.

When our modern quarantine regulations are promptly and thoroughly carried out, as directed by our Boards of Health, there is but little danger of the spread of contagious and infectious diseases among the people, though many of our commercial men, who have the love of gain more at heart than the welfare of their fellow-men, strongly oppose quarantining. They urge that it is injurious to commerce and drives trade from us.

There are many among us whose minds are thoroughly impressed with the dogma of predestination, who willingly neglect all preventive measures and perish, victims of their own blindness, rather than profit by the experience and observation of others, who have faithfully recorded such experience that we might have historical evidence of the practicability of preventive measures.

Now, after these experiences and observations have been confirmed by repeated trials, and the fact has been established beyond a reasonable doubt that man possesses the ability to protect his health, it does seem strange that the masses disregard the truth established by this evidence.

And the optimist comes forward and gleefully tells us that the world's progress keeps pace with man's ambitions and his desires, and that we ought to be content with the achievements of our own days.

But thoughtful men, such as study nature and her laws, base their conclusions in regard to all progress upon carefully collected vital statistics, and if we consult the balance sheet of the world, made out by Mulhall, from 1870 to 1880, we find the following percentages, viz.:

In population	9.76
In agriculture	8.58
In manufacture	18.60
In commerce	38.20
In mining	47.06
In carrying trade	53.22
In earnings of nations	19.84
In public wealth	10.57
In taxes	22.34
In public debt	43.39

Which forces us to the conclusion that the world's progress, in a financial way, is a myth, and that vital statistics ought to engage the most profound attention of every individual, as they refer to the life of both animals and vegetables, and their surroundings, as well as the laws that govern our mental, moral and physical development, together with the perpetuity of life. Then it may be said with propriety that the science of *vital statistics* deals with the science of *life*. If this be so, vital statistics must be of the utmost importance to every member of society; but this phase of the question has never been satisfactorily explained, though many of our brightest intellects have sought to discover the true meaning of life, guided by the faint glimmer of light which appears to be far in advance of them.

Then, if vital statistics are to become a factor in the solution of life, they ought to be prepared with the greatest care, for they become of paramount importance to every human being.

Save their obligations to God, the great Creator, who fashioned the earth in grandeur for man's dwelling, and surrounded it with air, so accurately adjusted that it is self-purifying, and so nicely chemically proportioned that it meets the wants and supplies the necessities of both animal and vegetable life, and at the same time it vitalizes or fructifies the earth that it may bring forth, almost spontaneously, an abundance of the most nutricious food, such as is best caclulated to sustain physical life. Yea, more. He has spread out the beautiful with prodigal hand, strewn it all along life's pathway to enable us to fix our hearts and affections upon regaining lost Eden.

It has been said that the influence of law, and especially that of the moral law, has in no country ever been more generally observed than in the United States, from colonial days to the present time. And the rapid growth of the American colonies to national grandeur, with the purity of her individual and social organizations, has in no country ever been surpassed, nor has the record of her public men ever been equaled in official integrity and high personal and moral character; all of which may be attributed to the influence of Bible study, which has been more general among the people of the United States than elsewhere upon the habitable globe, though no form of religion has ever been introduced in our political organizations nor required in any official station. Still it is apparent that the intellects of American officials have generally been illuminated by the sunlight of truth, which has enabled them to give form to our social, moral and political privileges.

However, it has been of recent years only that the attention of our general government was attracted by the condition of public health; and it was not until the year 1881 that the General Assembly of the State of Indiana enacted a law for the protection of her citizens by organizing a State Board of Health, and assigning its members the special, important and responsible duty of supervising the interests of the lives and health of the inhabitants, and the study of the vital statistics of the State, that they might make proper and intelligent use of the records of "marriages, births, deaths and contagious diseases," all of which the law requires to be reported, under penalty. But after six years of faithful and earnest work by our State Board of Health, Indiana's vital statistics are of but little value, as they do not possess that which makes statistics valuable—*absolute correctness*.

This defect, we think, is due to the want of appreciation on the part of those whom the law requires to carry out its several provisions. The County Commissioners, who are required by law to meet on the first of January and form a County Board of Health, ex-officio, though they are generally men of more than ordinary intellectual attainments—do not appear to possess an adequate idea of the benefits their constituents are to receive from efficient sanitary work. Therefore, in some counties of this State, the health office has been given to the lowest bidder; in others, the salary has been fixed by offers made by men who were anxious to place themselves before the public without regard to sanitary science—men who may have studied *curative* medicine, but never *preventive* medicine; yet they, with others, claim that the *clerical* work is all that is necessary. In this way the wages of health officers have been placed below what efficient work can be done for.

It is a well understood proposition in philosophy that force is the manifestation of energy, which must be obtained by the exchange of impetus in some form or other, and in all the ordinary transactions of life, common observation teaches us that whatever is efficient represents *labor*, or the outlay of its equivalent, money, and is but an exemplification of the scriptural declaration that the "laborer is worthy of his hire." Therefore, if the public ever enjoys the full benefit of sanitary science it must be through vital statistics, and the wages of health officers must be increased until they will secure the labor of men of experience in sanitary science, and no one is intuitively possessed with knowledge of this most important of all natural sciences.

A health officer who is destitute of knowledge of this science is only calculated to deceive the credulous and unsuspecting public; then the limitation of sanitary work, by those who have the wage power in their hands, is the best evidence that can be given the public that they are receiving only inefficient work, and that their money is being paid for imperfect statistics, which can only serve to deceive the masses, by the pretense of carrying out the law. In fact, it is doing nothing permanent, nothing that can benefit those who may live after us; it is only bequeathing to posterity a valueless statistical record, which can serve only as evidence of the indifference and parsimony of the public, made manifest through their County Commissioners, who limit the work by refusing health officers such wages as will enable them to visit the various neighborhoods in their county, that they may gather necessary information and direct the removal of causes producing diseases which may be found in every community. This would protect personal and public health and bar the danger of infection. But at present the public is denied this important service, as sanitarians are generally men of limited means, and must economize that they may keep the wolf from their doors. Therefore, it becomes apparent that sanitarians have made a mistake in accepting such meager wages for their work; but they have been, and are still, buoyed up with the hope of benefiting the condition of their fellow men, believing that a just public would ultimately do them right. But as there are many prejudices to overcome they believe that they will, like the Plebeians of old Rome, by successive stages, gain favor in the eyes of an enlightened people, well knowing that sanitary science is not a commodity nor an article of trade in a commercial sense, though it has been treated as such by some *ex-officio* Boards of Health, and regarded as such by others who have no just appreciation of the science of vital statistics.

This will apply to many of our citizens who are usually thought to be men alive to the interests of humanity, such as Justices of the Peace, who are clothed with power to punish violators of the law, and even ministers of the Gospel, who teach obedience to the moral and statutory laws; these so far forget and neglect the obligations they owe to the State, under the law, that they become criminals, by reason of failure to report marriages according to the requirements of the law, and they frequently fail to fill out the question blank that is furnished with each license. I will not charge them with guilt, as they have made their own record doubtless in every county in the State.

This being true of magistrates and preachers we need not think strange that physicians are often remiss in making their reports as required by law, though they are generally men of a high sense of honor and keenly alive to the amenities that belong to gentlemen and the proprieties of good citizenship, and as they are, to an extent, public men, it is eminently proper that they teach by both precept and example implicit obedience to law. As the human mind is capacious in its workings it loves to assert its independence, and often refuses task work, and we forget that we are a part of a mutual system of dependence, and that each of us, by our acts, increase or diminish human happiness. We fail to bear in mind that our forefathers, to a great extent, influenced our course in life, and that we, by our daily actions, are to a certain degree making the conditions that will govern the character of future generations.

We find men in every station of life who oppose public sanitary work; men who do not know that we are living in an age of thoughtful investigation, in a time when every avenue of thought is being explored, and the laws of nature are being studied, and every effort is being made to fully comprehend them. Therefore, physicians (or any one else) can not be excused if they fail to furnish their quota of accurate statistics as an aid to this important study. When this is accomplished the human mind will approach that state called omniscient; but until such grand attainments are made men should keep abreast the currents of their day, always bearing in mind that old ideas should be regarded as old clothes, which are of but little value in the struggle of life and need only be remembered for comparison or as curiosities. It is only the fresh, original thought that sets man free from superstitions, narrow creeds and a blind faith, which is always coupled with strange beliefs.

As we grow in thought we grow in knowledge; to-day we know that any leniency shown those who violate law is a penalty or a cruelty inflicted upon those who are obedient to the law; it is an injustice done the good, law-abing citizens of the State; especially is this the case in a country like ours, where trickery and dishonesty is not always considered disgraceful, where bad men are often treated as respectable and are frequently exalted to stations of trust and honor by the suffrage of the people. Such tolerance is nothing more nor less than a curse inflicted upon the young and rising generations, and an enemy to the peace and dignity of the State.

But is there not a reason why we should rejoice? Is not the dawn of the day of success already appearing? Are not the dark days of this country and of Indiana passing away? Are not the minds of the people being illuminated? Are not the common schools doing this work? Good books are to be found almost everywhere. There possibly was a time when physicians could impose upon the people by talking of secrets—of occult science—but that time has passed, and this day finds the people of this State educated and intelligent—an enlightened people who know as much as we physicians—and many of them who occupy the humbler walks of life would, doubtless, have made better physicians than many of us are. Once it might have been possible for physicians to throw around their work an air of mystery sufficient to cause the people to stand in awe of them and imagine their greatness to be beyond the comprehension of ordinary mortals, but to-day the public mind is growing; it is growing in knowledge; it is growing in the interest of the people. The mind-growth in this country is destined to, and undoubtedly will, remove all that retards perfect physical development. Therefore, the Bible should be a text-book in every department of education, as it teaches the only pure living and vitalizing power found in philosophy, in law, and in medicine. It furnishes those bright poetic visions which attracts the soul and influences the mind of man.

Though modern skepticism, by false reasoning, has led some men who seem to have strong minds into infidelity, which might have been prevented had the intellectual faculties been properly trained in the moral laws presented by the Bible for man's guidance. But true scientific knowledge will dispel skepticism or agnosticism. Reason, intellectually applied, will surely overthrow every argument of the infidel or rationalist. The laws of nature, so forcibly presented by the Bible, leave no ground upon which the materialist can stand and successfully oppose the laws that relate to man's destiny. But we have to lament the fact that what is called good literature by the mass of the people consists in books which teach no moral restraint.

Books which picture in fancy colors the wildest and most extravagant conceptions of human imagination, books which teach no discipline, no example of virtue and justice; and this is fashionable literature, and recommended by the educated, but it will not make good men and women; therefore it can not make good citizens. The literature that will benefit mankind, and people the world with good citizens, is to be found only in books where moral truth and human passions are treated with a sanctity and a largeness that will attract students and afford them such aid as will enable them to explore the unbounded fields of man's moral reason and the impulses of the human heart. Indeed, of all man's shifting fortunes, and his great conceptions of happiness, of truth, virtue, and of all that teaches man to know himself, that he may fully understand his nature, the knowledge that each and every human being most needs, instead of what the world calls elegant, the trifling which the world represents as proper to direct our sensibilities, instead of the force and beauty of obedience to law, and its application to every human want in all that pertains to human happiness, which ought to be presented to every one from the standpoint of the moral philosopher. Moral truth should be made to illuminate every page of literature. With such light in the material world there could be found no conflicting laws, and to those in the moral world there would be assigned no conflicting duties, and man would be enabled to so regulate his life that man would revolve around the great centre which is God's glory, and in doing so he would enhance his own worldly interests.

Therefore, every individual should make it his life-work to elevate the human race by striving to purify individual and public sentiment, and the recognition of high moral principles as the chief qualification for every station in life. The teaching of such principles and qualifications would soon enable men to recognize the importance of implicit obedience to both moral and statutory laws.

OUR CHARITIES.

BY DR. LAGRANGE SEVERANCE, SECRETARY BOARD OF HEALTH HUNTINGTON COUNTY.

In the annual report of the Indiana State Board of Health for 1884 the result of a sanitary survey of the infirmaries in the several counties of the State was given, which developed a condition of affairs in these institutions not wholly creditable to the management of these homes of our unfortunate poor.

It was the first time that the true condition of these institutions had been brought officially to the attention of the people, and developed the necessity of a well organized Board of Health in our State.

The survey of the Huntington County infirmary, made by the health officer of the county, showed the institution to be one of the best in the State, with large new, modern buildings, located on high, well-drained ground in the center of a rich farm of over 100 acres.

A connection with this imfirmary for the last fifteen years, as physician, enables me to give some facts and draw some conclusions that may be of value to those interested in sanitary matters as well as the public at large.

In 1876 a brick building, costing $15,000, was erected. The main building was 110x40 feet, with wings on either side 30x40 feet, two stories high, 14 feet ceiling for the lower story and 10 for the upper. Bath rooms and lavatories were supplied with water from a large cistern in the attic, into which it was forced from the basement. The whole house was heated by steam. The plumbing, ventilating and arrangements for draining were good.

To-day, less than twelve years from the completion of the building, the house is heated by wood stoves; the inmates may, if they choose, bathe themselves in a wash tub; the cistern in the attic has fallen down, and the superintendent can not tell where the sewer pipe empties, or whether, in fact, there is any sewer to the house to carry away the waste water, which is now thrown out on the top of the ground.

Steam may not be the safest or most economical for heating a county infirmary—it certainly is not while the present mode of selecting superintendents is in vogue. To manage steam heating apparatus safely and well requires one of experience. No ordinary farmer, however successful he may be in raising crops, is competent to manage this powerful agent. This was shown the second winter after the building was occupied, when a pipe near a radiator in the second story was exploded with such violence as to tear out the floors and wall, severely scalding several inmates. There is no reason, however, except carelessness and indifference, why the cistern and water pipes should not be kept in such a condition as to have the bath-rooms and wash bowls supplied with water for the use of the inmates.

A good supply of water for bathing purposes is of prime importance in an institution of this kind, and the water from the roof, if conducted into cisterns, will be amply sufficient. Cisterns, pipes, faucets and drains require constant watching by some one acquainted with such things, but when their care is left to those wholly ignorant of the first principles of good plumbing, who don't know the difference between a drain trap and a rat trap, they are sure, as in this case, to go to ruin.

Some superintendents will say that bath-rooms are a nuisance; that if in ever so good a condition the inmates will not use them, or if they do are as likely to use them for privies and water closets as for bathing purposes. This need not be the case, however, if proper discipline is enforced among the inmates. It should be the special care of the Superintendent that every one uses the bath-room regularly and properly. That they are not so used is the best evidence that the Superintendent is not fit for the place he occupies. Good rules once established may be as easily maintained in a county infirmary as in any other charitable institution; but where the position of superintendent is changed every year, and let to the lowest bidder, the inmates are apt to establish for themselves such rules as will best suit their convienience and habits.

For the accommodation of our incurable insane, who need confinement, we have a very well arranged building, apart from the main house. The building is of brick, and arranged for five separate apartments, placed in the central part and separated by firm lattice work; a corridor leads around the outside next the wall. The whole is well lighted and as well ventilated as is possible for a small building of this kind. Each apartment is provided with a commode. Convenient and well arranged as this is, and it is probably the best that can be had while incurable insane are left to the care of counties, it is a disgraceful inhumanity to keep any human being in such confinement. It is not the fault of the county, its commissioners, or people, that this evil exists. The insane require constant care to insure health and cleanliness, and when physically able should have daily exercise. Where many are together in suitable wards this is possible, but the county can not be asked to supply a special experienced attendant for two or three. The result is that from day to day, going on sometimes for years, these unfortunates are kept confined to a small cell, where from want of exercise they often lose the use of their limbs entirely. For the most part they are quiet, but occasionally in the night they break out in howls and screams that arouse the whole neighborhood. Is it any wonder that with such surroundings our county coroner was called last October to hold an inquest on the body of a sane inmate found suspended by the neck to an apple tree in the orchard? He evidently thought suicide preferable to nightly serenades of this kind.

The State should provide for their insane in large, well regulated asylums. It costs less to maintain an insane person in a State asylum, where large numbers may be grouped together in accordance with their mental and physical condition, than in county infirmaries, and the condition is vastly better in the former than in the latter. The cost for maintaining this class must be borne by the people, by tax, and this may as well be paid for the support of State asylums as for keeping insane paupers in a condition that is a disgrace to humanity. Our State is moving in the right direction in this matter, and it should keep on until not an insane person is left to the care of counties.

The quantity and kind of food supplied paupers has never, to my knowledge, received the attention it deserves. So long as inmates do not die of starvation, or no complaint is heard, it is supposed they are well fed. The superintendents ought certainly to have no interest in limiting the quantity of food below what is necessary where it is paid for by the county, but there is a tendency among some to show how economically they can manage in the interest of the tax-payers by publishing a very low daily average expense. One superintendent showed, by his quarterly report made to the commissioners, that he had fed, clothed and warmed his wards for a sum less than thirteen cents per day per capita! It seemed, apparently, as well worthy of mention and as satisfactory a reason why he should be kept in the position as though he had succeeded in voting every pauper for the candidates of his own political party.

To show the cost per capita, and the amount of food, clothing and fuel used in our county for the year closing August 30, 1887, the following table has been prepared. The figures are taken from the several quarterly reports made by the superintendent to the County Commissioners for the year.. The superintendent says they are substantially correct; that while there may be some few articles, such as the fruit from the orchard, roasting ears, and the grapes and small fruits from the garden left out, yet these would not materially change the average as appears in the table:

Since the organization of the Home, in 1884, sixty-five children have been admitted; of these forty-four have been found homes, and only six of these have been returned. At the present time there are twenty-seven inmates.

ANNUAL EXPENSE OF HUNTINGTON COUNTY INFIRMARY FOR THE YEAR PRECEDING AUGUST 30, 1887.

	Total for the Year.	Amount Per Capita for the Year.	Amount Per Capita Daily.
			Cts. Mls.
Boots and shoes	$53.84	1.56\frac{4}{89}$	0.4+
Dry goods and clothing	139.98	4.05$\frac{81}{89}$	1.1⅛
Coffins and sundries	67.00	1.94$\frac{14}{89}$	0.5¼
Groceries and provisions	149.26	4.07-8	1.1⅛—
Meat consumed	158.00	4.31-7—	1.2—
Potatoes and vegetables	117.00	3.19-6$\frac{7}{10}$	0.8¾
Wheat and meal	174.16	4.75-8½	1.3
Butter and milk	76.00	2.07-6½	0.5⅔
Wood and coal	117.50	3.21	0.8¾
Corn	104.00	3.84	0.1
Drugs and oils, $18.93, and lumber, $92.32	111.25	3.04	0.1
Hardware and repairs	122.15	3.34	0.1
Harness and repairs, $5.65, and blacksmithing, $34.75	40.40	1.10	0.5
Hired assistance	342.00	9.34	2.6
Superintendent's salary	500.00	13.66-4	3.7
Total cost	$2,272.54	$62.10	17$\frac{1}{3}$
Total cost daily per capita	......	......	17+

Average number of inmates, 44½; number of days present, 13,360; average per day, 36.6.

This shows a cost per day, for food for each inmate, of five cents. In making up the table the cost of raw material has been put at the market price. Is it possible that an adult person can live on food costing only five cents per day? If so, the American people are the greatest gourmands and gluttons in existence. It is estimated, upon the most carefully collected statistics, that the factory hands in New England consume food costing twenty-two cents per day. The Yankees are proverbial for their economy. It has been ground into them by the necessity of the case ever since they landed on Plymouth Rock, and yet it would seem that they have gained their reputation of being the best fed and clothed and most intellectual working class in the world while gluttonizing themselves by consuming four times as much for food as nature demanded.

The food question is one that should receive the attention of our State Board of Health. Let every county health officer be required to collect facts such as are contained in the above table. It will then be easy to determine whether our paupers are given sufficient food. I am satisfied the inmates in our infirmary are as well fed as any in the State.

Paupers, insane and criminals are wards of the State. With the State, and not friends or relatives, rests their care, protection, and, if possible, reformation. Whether these classes are brought under the control of our charities and reformatories by their own acts or through misfortune does not affect the relation of the State to them. Humanity demands that they have the best care commensurate with the judicious expenditure of a proper amount of money. The amount necessary should be determined by those competent to judge.

Dr. Seawright, after inspecting the Huntington County infirmary, last summer, said to the Commissioners:

"The people of your county will never complain on account of money judiciously expended in the care of your unfortunate poor."

The question of the necessities of these classes is one involving much study, and its solution can only be successfully made by experts. Neither honor or pecuniary reward will be received by those who solve it—only the satisfaction that comes from the consciousness of improving the condition of a friendless, helpless class.

There are three classes who should never be confined in a county infirmary, viz.: The insane, idiots and feeble-minded, and children under the age of puberty.

The statutes of Indiana open a way for providing for this last class—the children—outside of infirmaries. By an act passed by the General Assembly of 1881 it was provided that upon the formation by the citizens of any county of an association for the organization of an orphans' home, a sum not exceeding $5,000 may be expended for procuring buildings suitable for the accommodation of such an institution, and that the sum of twenty-five cents per day, for each child, may be appropriated out of the county funds for its maintenance. The act was so amended in 1885 as to allow two or more counties to join in maintaining such an institution, and the daily allowance was increased to thirty cents.

This act is a good one. By providing first for the formation of an association of the citizens of the county good management is most likely to be secured. The most benevolent people in any community are the ones likely to interest themselves in such an organization. All such will feel a pride in making the home a success; such has been the case in our county.

In 1884 an organization was effected in our county, and the commissioners bought a property, including a house and two acres of ground, near the city limits. At the time there were about fourteen children in the infirmary. These were all removed to the home as soon as completed, and others in the county who were entitled to admission were added to this number.

Our home is a success in every particular. The people take a kindly interest in it and are proud of its management.

As fast as possible homes are found for the children; some have been adopted into families of our most prominent people, and the discipline and care in the institution is such that they will compare well in deportment with the children of the middle class of any community.

In 1887 a school-house was built on the lot by the county, and now a competent teacher has charge of the children. This was a good move, as the children are now together, and are not subject to any possible humiliation which might result from attending the public school in the city.

The establishment of these homes is not alone commendable philanthropy, it is good economy. The influence of infirmaries upon the young is bad; it tends to make criminals. It is cheaper for the State to educate children and give them a discipline tending to make them good, honest, self-supporting citizens, than to maintain them in prisons in adult life.

In looking over our State institutions for corrections and charities from a humane as well as sanitary stand-point, the following suggestions might be worthy of consideration: The establishment of a State board, consisting of the Governor, the State Board of Health, and an equal number of ladies, with general supervision of all our charitable and reformatory institutions. The Governor would give the executive power. The members of the State Board of Health should know the wants and necessities of these institutions from a scientific stand-point, and the ladies would be sure to know if the inmates of our insane asylums, poor houses and prisons were receiving the humane care their cases demanded.

The State of Michigan has a board of this kind, and I learn from its Secretary, Dr. C. L. Storrs, of Lansing, that it gives general satisfaction throughout the State. The great State of Indiana should not be behind others in works of this kind. If it is, it will not be from want of willingness on the part of the tax-payers to have the best, but because our legislators fail in devising the means.

COMMON SALT.

BY W. A. FRITSCH, M. D., EVANSVILLE, IND.

Common salt was known to the most ancient nations, not as chloride of sodium nor as Na. Cl., then these old nations had no knowledge of chemistry, but nevertheless they knew enough of salt to appreciate it. We find it mentioned in the Old and New Testament, and with Christ it was a favored simile in his speech and his parables. So, in his Sermon on the Mount, he said: "Ye are the salt of the earth; but if the salt have lost his savour wherewith shall it be salted?" And, again: "Salt is good; but if the salt have lost his saltness, wherewith will you season it? Have salt in yourself and have peace one with another."

The value which salt commanded since the time history opened her books is to-day greater than it has ever been. The consumption has become larger with the development of chemistry. It enters now largely into the manufacture of chemicals and medicines; so much that the celebrated chemist, Justus Liebig, has said: "The consumption of salt is the true measure for the culture of a nation." In our generation we have, in our school days, been so imbued with the importance of salt for our welfare that it seems sometimes hard to convince people that this beneficent spice may become detrimental to our health when used in too large quantities. How much the aboriginals of our continent indulged in salt I can not say, but it seems to me, judging from the skulls I have seen, which nearly all had remarkably well preserved teeth, that they ate it not as much as we do in modern times. They used it perhaps more out of instinct, and found in the herbs, the animals, the waters upon which they lived, and in the caves which they inhabited, a sufficiency of salt Tradition has it that in our State the celebrated "French Lick Springs" were well known to the Red Men. Here they came to hunt, to fish, and to drink the waters, which contain, as one of their principal ingredients, chloride of sodium. The Indians also knew that the buffalo and deer came there to lick these waters, and would give them plenty opportunities for hunting. This tradition, associated with the fact that French people first settled that country, was the motive in giving those celebrated waters in Orange county the name of "French Lick Springs." "Wyandotte Cave," in which many traces of the "Red Men" were found, contains chloride of sodium in one or the other form, and so much saltpetre that it was once manufactured there.

By and by the human race had lost much of this inborn knowledge in its onward march for culture and advancement, therefore the right proportions necessary for the human economy had to be readjusted through the analytical methods of modern scientists. Chemistry has taught us that nearly everything we eat and drink contains salt, and needs only a small addition of it to make it wholesome. If this was not the case, if nature had not imparted this precious salt so abundantly throughout the earth, in its waters, plants, animals, etc., it would be difficult for many wild animals, for whom no kind hand sets the table, to find always the salt they need for their health.

The best articles in the preparation of our food are sometimes misused, and may then become detrimental to our health. Not by discarding such useful articles do we accomplish any good, but by finding the right way and the best means how to use them, do we help our fellow-men along. Even the beneficial salt is by many people used in much larger quantities than is good for their health. Many a good woman in her kitchen "lets her left hand not know what the right doeth" when she puts it in the salt box and uses that cheap material more profusely than is necessary. Professor Rudolph Virchow, the great German scientist, writes in one of his books: "We eat much more salt than is necessary for the purposes of nutrition. Salt is known as the common spice of the poorer classes. But the rich also eat it much more than is necessary."

The literature about chloride of sodium is necessarily very large, but I intend to cite here only its important physiological actions, which have been ascertained in the laboratory of the physiologist and at the bedside of the sick by the physicians.

Chloride of sodium in a quantity of 0.85% is contained in our blood when in a normal condition, and nature needs it in building up the human body. It is essential to the formation of cartilages. If common salt is taken in increased proportions, the salt in the blood is increased, and with it an increase of the blood corpuscles takes place. At the same time, when salt is used in unusual quantities, the water of the body is decreased and an impoverishment of fibres follows. This decrease of water in the blood is the cause of thirst we experience whenever we eat a very salted meal for dinner or supper. Salt stimulates the activity of the glands, and causes a greater flow of saliva. If continued in large doses it will result in an inflammation of the glands. The strongest animals can be poisoned when too large doses of salt are administered to them. Goubaux has ascertained, through experiments, that if to a horse the two hundredth part, to a dog the four hundredth part of their bodily weight is given in common salt it suffices to bring on death, with the appearance of severe inflammations in the stomach and intestines, after twelve hours. In those countries where salt is produced from sea water by canalization and evaporation, it appears that when the water becomes concentrated to 8° or 9° Beaume's areometer many plants and animals, while still living, commence to suffer, and all will have gradually disappeared when 25° Beaume have been reached. Physicians have added to these facts some important discoveries. They have noted that when salt is used too often, or in too large quanties, it causes a breaking out on the skin, and in other individuals it congests the stomach and intestines and produces diarrheas and piles. As its action on the glands are very marked, it will irritate, also, the lachrymal glands, and should, therefore, be used with caution in diseases of the eye. The urine voided by a healthy person in a day contains about 12 grammes of chloride sodium. In inflammatory diseases, as pneumonia, salt disappears from the urine. Salted meat and pickled herring, if used in excess, may bring on death by fatty degeneration of glandular tissues.

This may be sufficient to show that one of the most useful articles in the preparation of our food may become dangerous to life if used in excess. An old proverb says: "*In media tutissimus ibis.*" "You will go most safely in the middle," is the English version; and a very good rule it is.

We wish to caution our readers, who take an interest in cooking, not to follow indiscreetly the prescriptions in the cooking books and almanacs; they should be taken *cum grano salis.* Some of these prescriptionists are too liberal in dispensing common salt. They have never considered for a moment that the ingredients to which salt is mixed contain in their natural state already a small amount of common salt, or, like butter, have been salted before.

In the following list I have tabulated some of the most useful articles used in the kitchen for the preparation of our meals, and thereto added is the amount of common salt which these articles contain per thousand:

Fresh pork	0.12	Wheat (flour)	0.41
Duck meat	0.15	Peas	0.44
Chicken meat	0.18	Beans	0.80
Cow's milk	0.41	Potatoes	0.13
Rabbit meat	0.50	Strawberries	0.24
Eggs	1.5	Spinach	2.10
Beef	3.1	Lettuce	1.00

Beside these articles many others are used in housekeeping, which have been pickled and salted before, as fish, herring, salted meats and butter. The butter we buy in the grocery or on the market is not only of different quality, but very different in the amount of salt it contains. This cheap spice in the butter commands a good price and encourages, very often, fraudulent dealers to put more in it than is necessary.

Some one has written that the thirst for beverages, which gives some people so much trouble, is partly caused by the great consumption of kitchen salt at the present day, and figures have been brought in array to show the increase of bar-rooms in proportion to the consumption of common salt. I can not believe that there is more drinking going on to-day than in olden times, when every family made its own beverage and distilleries were scattered more plentiful over the country. But some of the good temperance women, who have trouble at home, might act acccording to that suggestion and try, once, another method of bringing their husbands and sons back to honest, sober methods of living. Instead of attending the excitement of sensational temperance speakers, let them tend to the kitchen. It is a little more trouble to cook good, healthy meals than to fry some salted bacon or put some sardines on the table, but it pays. Give the husbands and sons good, healthy food; make the home pleasant for them, and then follow the prescription of Christ: "Have salt in yourself and have peace one with another."

IDIOPATHIC CONTINUED FEVER AND TYPHOID OR ENTERIC FEVER.

BY JOHN E. LOCKRIDGE, M. D.

There is scarcely a subject in the whole domain of medicine upon which there has been a greater degree of unanimity than that of the unity in nature of simple continued fever and the so-called typhoid or enteric fever. Almost from the time of Cullen medical writers and teachers have declared them to be types or forms of the same disease; the same in origin, nature and propagation, but differing somewhat in pathology, course and general phenomena.

From the caption of these lines it will be readily inferred that generic duality is hinted at, and, in fact, from an experience of more than *thirty* years in the management of both of these maladies—and I am quite sure that not a year has passed but that I have met with cases of both—I have long been convinced that idiopathic continued fever and typhoid fever are separate and distinct diseases—distinct in etiology, nature, pathology and general course and behavior—just as different as typhoid and typhus fevers are, which were considered and treated as one and the same disease until some time during the last century only. Both are continued fevers, and that is the only resemblance.

Of course, these paragraphs are not offered as an essay on these diseases, nor is this the proper medium for such a paper, my only object being to attempt in some measure to reconcile some of the discrepancies existing amongst physicians as to some features of the so-called typhoid fever, and most especially as to its etiology, some contending that it is contagious, and others urging just as strongly that it is not; the latter, of course, taking no precautions against the possibility of contagion, and the former taking the greatest precautions in every case. The truth of the matter is that there are two separate and distinct diseases; the enteric being contagious under certain circumstances, while the idiopathic is never contagious. I can not accept the theory taught by Sir Thomas Watson and others—although it may smack of medical sacrilege—that these fevers are identical in the outset, but owing to certain adverse circumstances some cases of the idiopathic form may assume the typhoid type.

I will now attempt to point out some of the differences in the symptoms, course and general behavior of these complaints, and if I shall succeed even in getting some of our physicians to investigate further this matter, with a view of firmly establishing this generic duality, and thereby directing their sanitary precautions in the proper direction, then I trust that these lines will not have been written in vain. The accession of typhoid fever is generally abrupt, the disease being fully established in two or three days after the initial chill or rigors. The establishment of the idiopathic is slow and much more insidious, usually occupying a week or two, or even a month or more, in fully establishing itself after the first symptoms of general *malaise* or indisposition have manifested themselves, and this state of ill health may continue for weeks without any febrile movement whatever; that is, it may run into fever, as it were.

In typhoid the temperature usually ranges from 103° to 105°; in idiopathic from 101° to 103°. In the former the pulse usually ranges from 100 to 120 per minute; in the latter from 90 to 110. In typhoid we have iliac tenderness and gurgling, tympanitis, diarrhœa, delirium, stupor; hemorrhage from nose, lungs, stomach, ears, and later from bowels. In idiopathic we seldom, or never, have any one of this train of symptoms, except, perhaps, the slightest tympanitis in some cases, and a degree of somnolency from which the patient is very readily aroused, and answers questions promptly and rationally.

In typhoid we have the rose-colored eruption in a large proportion of cases; in the idiopathic we never find it, in the idiopathic we are more apt to meet with petechiae and enlarged mesenteric glands than in the typhoid. In both we may have sudamina.

Now, as to the cause of these diseases. Typhoid fever is doubtless caused and propagated by a germ-laden miasma which pervades the air and water, as well as individuals already affected; the latter to the extent of infecting the contiguous atmosphere, and under certain circumstances to the extent of imparting the disease by contact to others. Typhoid, then, is infectious and epidemic, and contagious under certain peculiar circumstances. On the other hand idiopathic fever is neither infectious nor contagious. It originates in some fault of the system itself, some departure from the standard of health. I have known cases produced in young girls about the age of puberty, who were too closely confined to their studies at school. I have known cases to terminate in the idiopathic form after having complained for several weeks of ill health, or what they are apt to regard as biliousness. Imperfect recovery from attacks of acute diseases is a fruitful cause. I attended a man once for dysentery in early summer, from which he had scarcely recovered when he was attacked with pneumonia, and before he had regained his flesh and strength he was ushered into an attack of idiopathic fever, from which he did not get up until the Christmas holidays. It is my opinion from ample experience that in this form of fever the cause is intrinsic—some *materies morbi* in the economy which nature is attempting to get rid of—and as the old authors taught was the process of fever, a kind of fermentation in the fluids preparatory to distilling off the noxious matter. Idiopathic fever, then, is neither infectious nor contagious.

In conclusion, in order to show at a glance what I conceive to be the radical difference in the cause, course and general behavior of these diseases, I will arrange in a kind of tabular form the leading features of both as they usually occur:

IDIOPATHIC CONTINUED.	TYPHOID OR ENTERIC.
Cause: Intrinsic, or some fault or impairment of the system from long-continued ill health; too close application to study or business; spoliation of the system by repeated attacks of acute diseases, etc., etc.	Cause: Extrinsic, some miasma pervading the air or water, and in a certain proportion of cases from other individuals affected. It is both infectious and contagious.
Onset: Usually very gradual and insidious; developing often after a period of unsatisfactory health, or acute disease, etc. Seldom or never more than a single case in a household or vicinity.	Onset: In most cases abrupt, after the initial chill or rigors the disease is fully established in two or three days, or less. Often there are two or three cases in the same family, and several in the vicinity.
The tongue is sometimes covered with a thin, whitish coating, but very often it is clean and shows but little difference from health; it is not red at the tip and edges; it is not often dry, except after awakening from a deep sleep, and after breathing through the open mouth, and then very temporarily. There are no sordes about the teeth, except in the very last stage of extreme exhaustion.	The tongue is almost invariably red at the tip and edges; it is covered with a heavy brownish coating; it is usually dryish or quite parched. Collections of sordes very soon make their appearance about the teeth, gums and lips.
Neither epistaxis nor any other hemorrhage occurs in the initial stage; nor is hemorrhage from the bowels to be looked for later on.	As a prodromic symptom epistaxis is quite common; hemorrhage from the bowels occurs in a number of cases, and should be anxiously anticipated.
There is no initial diarrhœa, or tendency to looseness of the bowels. On the contrary the bowels are nearly natural in their actions.	Diarrhœa is one of the early symptoms; and there is a tedency to looseness of the bowels throughout the whole course of the disease.
	Tympanitis is almost an invariable symptom, at first in the right iliac region, attended with gurgling; but it soon involves the whole abdomen, and sometimes to an enormous degree.

There is no tympanits, or tendency thereto, the bowels remaining flat, and becoming more and more so as the patient becomes more and more emaciated. No tenderness on pressure in the iliac region or elsewhere is found.

Delirium is very seldom present. There may be some incoherence when patient awakens from sleep, which soon passes away.

There is no evidence of any inflammation or ulceration of the glands of Peyer.

The rose-colored spots are never present; petechiæ are, perhaps, more common than in typhoid fever.

Temperature usually ranges from 101° to 103°, the pulse from 90 to 110 per minute.

Mode of death in fatal cases is usually by asthenia or a gradual failure of the powers of life.

There is also tenderness on pressure, which at times is very great.

Delirium is a very common symptom. It may be of a low muttering kind, or violent and maniacal.

The glands of Peyer are, perhaps, invariably inflamed and ulcerated.

The rose-colored spots are to be found in a large proportion of cases, but not in all cases.

Temperature usually ranges from 103° to 105°; the pulse from 100 to 120 per minute.

Death may result from asthenia or failure of the vital powers, but in a vast majority of cases the fatal issue is the result of one or more of the many complications, from inflammation of the brain, lungs or abdominal viscera, or from hemorrhage of the bowels, or intestinal perforation, or the patient may be literally consumed, as it were, from hyper-pyrexia.

IMPORTANCE OF PREVENTIVE MEDICINE.

BY W. DANIEL, M. D., SECRETARX HARRISON COUNTY BOARD OF HEALTH.

Of writers and speakers on the subject of diseases of the human body there is no end, and the number of medical books and journals devoted to the subject is a wonder to readers of the nineteenth century. This is as it should be. for by the universal dissemination and publication of facts already known, men are led to theorize and speculate as to the unknown. Speculation thus often leading to investigation, and as a result of such investigation, we frequently have the establishment of other and more important truths. The rapidity with which medical works are multiplied, and the great number of new medical journals, yearly presented to the profession, teeming with words of instruction and scientific knowledge, prove to us that the present is but the beginning of the grand world of books and universal dissemination of useful medical knowledge destined to bless suffering humanity in coming years.

"Knowledge is power" has been taught us from our cradles up, but knowledge in medicine is more than power. Every fact in medical science fully proven and established is a blessing beyond estimate, a boon to the race, which means health, happiness and prolongation of life.

It has been said, were diamonds as plentiful as pebbles, they would possess no higher value. Not so with medical facts. Their value is so true, so certain and so positive, that the establishment of a thousand would not dim the lustre or lessen the value of a single one which had preceded them. Hence we must place a very high value upon every proven scientific fact.

For instance, who can estimate the value of vaccination to the human race? Or the value to humanity of the fact that diphtheria, scarlatina, cholera, etc., are contagious diseases, and may be prevented from spreading by isolation, disinfection, etc. We have the lives of many thousands as a reward of such preventive knowledge; yes, of thousands yearly, and the prevention of untold misery and suffering. What a boon and source of consolation to the mothers of our land, when we can come to them and say, "Vaccinate your children and rest in peace." What a source of satisfaction and security it would be to them if we could say, "Thus far, Cholera, and no farther."

Much has been done by the medical profession in preventive medicine, but much yet needs to be done. The world can never repay the profession for what it has done in the prevention of disease. In fact, as a rule, the public do not desire to pay anything to escape a disease, but everything to be cured. Such is the estimate placed by ignorance upon science. Although the history of preventive medicine teems with glowing and important truths and profitable facts, yet much remains unlearned. For instance, who will tell us how to prevent dysentery? How often do we hear the question asked by anxious parents, "Is dysentery contagious?" And, gentlemen of the profession, how do you answer it? In order to prevent the prevalence and spread of any disease, it is necessary for us to understand fully its origin and its mode of propagation and transmission. As to dysentery, it has been known to the medical profession for more than two thousand years, and yearly sweeps thousands of most all countries into the sublime subsequently. It has existed and destroyed man wherever man is found; follows him like his shadow, and sticketh closer than a brother. In fact, it seems to have been one of his earliest and most intimate acquaintances; has destroyed his friends and still destroys, and yet we seem powerless to prevent it, or to stop its ravages. Who will tell us how? Let the man arise, and the mothers of our land will rise up and bless him.

We often hear dysentery spoken of lightly, as being of little importance, and yet it yearly carries off hundreds of our bright children and honored citizens. No disease should be thought lightly of that destroys our people as dysentery does.

While we are writing and speaking and publishing, disinfecting and cleansing, making laws and quarantining against far-off Asiatic cholera, thousands of our people are dying of dysentery. While it is just and right and proper to take all steps necessary to protect our citizens from a foreign disease, yet we deem it equally important to protect them against all indigenous diseases. Dysentery, in its malignant epidemic form, is almost as fatal in proportion to the number attacked, as cholera. Why do we not take some decided steps in *this* matter? Is it because we do not know how? Or is it because we can not? We are inclined to think it is the former. If dysentery is contagious it must depend on a living infectious germ for its propagation. If contagious, and has a specific origin, that specific cause must always exist, and infect, before the disease can be produced in any given subject. If contagious, it therefore can not be produced except by the specific cause. If contagious, and the specific cause is destroyed, dysentery would cease to exist. If due to a living specific germ, we have a clue by which we may be enabled to prevent it to more or less extent. But in order to successfully combat it we must first determine the question of contagion. If contagious, it is not produced by eating green apples, cucumbers and gooseberries. If contagious, it is not produced by sleeping with the windows up or down, by a drouth or excessive rains. If contagious, vicissitudes of the atmosphere will not produce and propagate it. If contagious, it does not arise from any one or all of the various sources to which it is generally attributed. If not contagious, it may have many sources of origin, and we would be less able to prevent it. It would be rather difficult, for instance, to keep the boys from eating green fruit, or to prevent a drouth, or a rainy season. It would be equally difficult to control the vicissitudes of the atmosphere.

But if it is contagious, as we believe it is, from a close study of an epidemic that occurred in our county last year, we should endeavor to form an acquaintance with its germ principle, learn the laws by which it is governed, its friends, and its enemies. Our State Board of Health should take up the question and give the public all the information possible, and proceed to investigate each outbreak in our State. In our county more people died from dysentery last year than from any other one disease, and I doubt not the same may be said of the previous year. We had an excessive drouth last year, prolonged for many months, and in some localities there was a great scarcity of water. Dysentery was general over the entire county, but some sections suffered far more than others, and in two sections the disease was very fatal. The drier districts suffered no worse, and, in fact, some of them not so much as some better supplied with water. It occurred as often among the well-to-do as the poor, and attacked all ages. The very young and the very old died more frequently than the middle aged. It seemed at times to be transmitted from one member of a family to others, and in some instances one member of a family would take it and die and the rest remain well. The general opinion of the people was that it is contagious, and I am forced to think so too.

Neither the scarcity nor condition of the water, high or low lands, or diet, seem to have influenced its progress in any manner. The only change that appears to exert any influence upon it was the temperature. A continued elevation of temperature for a few days gave it more life and made the disease more fatal, while a decided fall for a few days always checked its progress. But a high temperature alone will not produce it, nor no other one condition that is known at the present. Neither can we say that a multiplicity of general causes will produce it. To illustrate, in one section of this county, north of Corydon, where dysentery was very prevalent and fatal in the summer of 1886, in that same region it hardly appeared at all in 1887, yet it was very dry and water very scarce in that section. Also, in the two localities where it was most general and fatal in 1887, there were no cases heard of in 1886. Taking the minute history of outbreaks in this county and analyzing them as to cause, I am fully convinced that the cause is specific and as yet unknown. I believe it, therefore, to be a contagious, infectious disease, and would suggest that our State Board of Health have health officers throughout the State report minutely each year every outbreak of dysentery in their several counties.

THE STATE IN RELATION TO PUBLIC HEALTH.

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It would seem to require no argument to prove that it is the duty of the State to guard the health of its citizens. The power to make and enforce laws having for their object the protection of the public health is conceded to the State on all hands. It comes under those powers reserved to the several States, denominated police powers. The duty will follow, logically, as soon as it is demonstrated that disease can be combated by law as well as by drugs. And it has come to this, after all the study and learning of the centuries since the time of Hippocrates, that the police health officer and the sanitary engineer can do more to rid mankind of disease than the physician and the pharmacist. But many difficulties beset them all. How shall the law combat disease, what shall the health officer do, and who is qualified to act as sanitary engineer? These and many other questions are problems for the legislator to solve. I will endeavor to throw out some suggestions leading to the probable solution of some of them.

State Boards of Health are comparatively of recent origin. The first one established in the United States was in Massachusetts in 1869. Legislatures have advanced hesitatingly and voted money for public health parsimoniously. Since the discoveries of modern biologists in the microscopic world, whose flora, if I may use the expression, is as infinitely varied as that of the world which may be seen by the unaided eye, have been manifested by convincing proofs and experiments, a new light has been thrown upon the etiology of disease, and the new antiseptic surgery has been established upon a truly scientific basis. But by far the greatest boon these discoveries have conferred upon mankind is the proof that most of the terrible diseases that scourge it are preventable—yes, preventable by statute! The great Pasteur—this century will hardly realize his greatness—gave the name of *microbe* to that vast number of the "infinitely little" organisms found in nature—in the water, in the air, and in the soil, in food and drink, and particularly in filth and decaying vegetable and animal matter. I will make use of no other term in this paper, because the many different names applied to these organisms, taken from the dead languages, serve to confuse the non-professional reader. *Microscopic weeds* would answer for a name just as well as any other. One point is not sufficiently explained, and that is, that by far the greater portion of the microbes is harmless, and many are useful and beneficial to man, *e. g.*, the yeast-plant family, the ferments of wine, cider and vinegar, the lactic ferment that sours the milk, and those that ripen and give flavor to the different kinds of cheese. I venture the assertion that in relation to number, variety and quality, they bear a striking analogy to the vegetable kingdom, which belongs to the visible world. The ratio of poisonous plants to the harmless and wholesome ones is about the same as that of the disease-producing organisms to those that are harmless and wholesome. Just as the gardener will destroy and prevent the growth of the weeds, so the sanitarian should combat the growth and spread of deadly microbes. Only the methods are different—the principle is the same. In fighting disease-producing microbes the sanitarian not only seeks to destroy them, but removes the soil in which they grow. The cardinal principles of efficient sanitation are municipal and domestic cleanliness, drainage, pure air and water, and sunshine. These things can not all be had by individual effort. You may keep your own house and door-yard clean and dry, and allow nothing to pollute the air or the water, yet your neighbor may sin against every precept of the laws of health, and render your precautions of no avail. Hence, it follows that the State must take the matter in hand. The vigilence and authority of the health officer should reach not only the crowded wards of the city, but every neighborhood in the State. Every township should have its local board of health. This is where the legislation of Indiana is deficient.

From the very nature of the case the development both of the law and of the organization of local boards of health must be slow. It is quite evident from reading the reports of the secretaries of the various State boards of health that they meet with much local opposition from members of the medical profession. Naturally, in selecting members of a board of health, the public turned to the medical profession; for who so well qualified to prevent disease as the physicians? But was this assumption well founded? Pasteur is not a physician. When he started out he was not even a biologist.

The law, it seems, should in the first place provide for the compulsory organization of local boards of health in every township in the State. It should in the next place invest the local board with adequate power and authority, and should define its jurisdiction. It should also put at the command of the board, surrounded, of course, by certain checks and safeguards, sufficient money to enable it to discharge its duties, to be raised by taxation and, perhaps, by license fees collected from trades and avocations likely to cause or spread diseases. It should likewise authorize and compel the destruction by fire (if not susceptible of disinfection otherwise) of the carpets, bedding, clothing, furniture, and other personal goods of persons dying from consumption, cancer, scrofula, syphilis, cholera, small-pox, scarlet fever and the like, and forbid their sale. I have seen the bedding, clothing, upholstered furniture and books of persons who had died of cancer and consumption sold at administrator's sale and scattered through the community. Is it any wonder these diseases increase if such things prevail generally? Not only should this be provided for, but crematories should be constructed for the burning of garbage, dead animals, and any organic matter that might become a propagating bed of disease-producing microbes. Those localities having natural gas could utilize it in this way very efficiently. The local boards of health should also have at their command apparatus for disinfecting clothing and bedding by means of super-heated steam. It should be their duty to attend to this disinfection in person. Platitudes and precepts are as worthless as drug disinfectants. It should forbid the construction or further use of plumbing (water closets) in cities having a public water supply, without a license from the board of health. Is it not well known that the contents of badly constructed water closets are syphoned back into the water mains by the vacuum following a shut-off of the water mains, and that terrible fever epidemics have followed such accidents? The water closet with a cistern is the only safe device free from this objection.

Cellars are great disease breeders. The law should therefore provide for a thorough, compulsory, semi-annual cellar inspection, with power to compel the cleaning, ventilation, drainage and disinfection of cellars as often as necessary.

Cities should be compelled to construct abattoirs so situated as to be free from sanitary objection, and this should be under the jurisdiction of the State Board of Health. No slaughtering of animals should be allowed outside of these abattoirs.

Measures to prevent the pollution of rivers and creeks by manufactories and cities should be adopted. Sewers and garbage should not be emptied into small rivers. Great progress has been made in England, Holland and France in this direction.

Municipalities are by law responsible in damages for neglect of ministerial duties causing injuries to persons free from contributory negligence. Counties must respond in damages resulting to man or his property from a defective bridge, when the defect might have been remedied by ordinary care. Why should not this salutary principle be extended by making municipalities liable for damages caused by disease which originated and spread through the gross neglect of their boards of health? Much of the indifference of the not over tidy tax-payer to health laws and health protection would be effectually obviated by the money consideration involved in the law. A few judgments for damages would waken up the municipal council to a realization of its sanitary surroundings. The great cost of an epidemic of contagious disease to a large city can hardly be overestimated. Not alone in the loss of trade consequent upon people remaining away from the city, but in the loss of time, the expense of nursing and medical attention, diminished vitality, premature death and expense of burial. This indirect tax on the community is a hundred fold greater in amount than the sum necessary to enforce such sanitary measures as would prevent the epidemic. It is not my purpose to prove that diseases are largely preventable by law. It has been proved beyond a *reasonable doubt*, as that term is understood in an Indiana murder trial. I do not expect that an action for damages for injuries from gross neglect of sanitary duties will be provided for by statute in the near future, but I regard such a law as ultimately inevitable.

Hippocrates summed up the whole of the sanitary science when he said that "pure air, pure water and a pure soil" were necessary to health. How much have we progressed beyond this? In cities the law ought to be so constructed that the Board of Water Works Trustees, the Street Commissioner and the Board of Health should co-operate in the discharge of their respective duties, and be invested with adequate powers. The expediency of a consolidation of these boards into one might be considered with profit. For what good will it do for the Board of Health to formulate health precepts if the Water Works Board will supply impure water to the people, or the Street Commissioner will suffer the streets and alleys to be reeking with filth? Let the State Board of Health examine the reservoirs of some of the city water works; they will need no microscope. The water-dogs, eels, old boots, dead animals, and a vast mucky slime of an indefinable composition of nastiness will meet their eyes. A system of sanitation that makes no provision for keeping the water supply of a large city clean is certainly imperfect, to say the least about it. Nor is it wise to defer action till an epidemic breaks out at our doors. It was almost demonstrated, during the recent cholera epidemic in Spain, that those cities whose water supply was pure escaped the scourge. In England they pay much greater attention to the protection of their water reservoirs, and the filtration of the water before entering them, than we do. Reservoirs should be sided up and roofed in.

The jurisdiction and duty of an efficient health board should extend to the dairies, the butcher shops, and, in fact, to all the manufactories of food and drink. Recent experiments in England have produced evidence strongly tending to prove that if scarlet fever is not a bovine disease, it may at least be propagated among cows and carried with the milk to the nursery to slaughter the little ones. The evidence that that insidious, sneaking foe of mankind, which brings more victims to the harvest of death than any other disease—consumption—may also be communicated to man by means of diseased meat and milk, is much stronger and more convincing. Trichina need only be mentioned. That many other diseases may be carried by the same means goes without saying. A rigid dairy, butcher, meat, food and drink inspection would do much to obviate these dangers. It is not enough to pass laws making it a misdemeanor to sell diseased food or drink. These are good so far as they go, but they do not reach the root of the evil. They will not prevent such sales, and are not self-executing. Besides, what consolation will it afford to the sick victim if the unscrupulous vender of diseased food is fined a small sum of money?

It is painfully apparent that if such duties as I have indicated are cast by law upon local boards of health, they must be differently constituted from what they are now. Unquestionably members of the medical profession will continue to be chosen as members of health boards, but they should each contain some one having the knowledge and skill of a professional engineer, at least in cities; and, perhaps, a member of the legal profession would not be out of place on a health board. It may not be generally known that it is to a layman, Mr. Lemuel Shattuck, of Boston, that Massachusetts, the first State in the Union to establish a Board of Health, owes the first report of a sanitary commission; and that it is to a London barrister, Edwin Chadwick, Esq., that England owes the most strenuous and lifelong efforts in the cause of preventive medicine. (Rep. Ontario Bd. H., 1882, p. 7.)

Other States are in advance of Indiana in the matter of sanitary legislation. Among the older States, Massachusetts, Rhode Island, New York and New Jersey have enacted many laws in relation to public health that might be studied with great profit by an appropriate committee in each House of our General Assembly.

Would it be considered indelicate to suggest that a standing committee in each House on public health ought to be appointed at every session of the Legislature?

Michigan and Minnesota, among the younger States, have adopted advanced ideas in sanitary legislation. The latter State enacted a very comprehensive law on the 3d of March, 1883, entitled "An act relating to infectious and epidemic diseases, and the preservation of the public health." The first section of this act empowers the State Board of Health to make regulations for (1) the speedy interment of the dead; (2) house to house visitation; (3) the provision of medical aid and accommodation for patients, physicians and nurses; (4) the promotion of cleansing, ventilation and disinfection; and (5) to guard against the spread of disease by quarantine, etc. The twelfth section is of such vital importance that I will quote it entire:

"SEC. 12. Any local board may direct the destruction of any bed or bedding, clothing, carpets, or other articles which have been exposed to infection from contact with infected persons or articles, and may allow compensation for the same, or may provide a proper place, with all necessary apparatus and attendance, for the disinfection of such articles, and may cause any articles brought for disinfection to be disinfected thereby, and said Board may provide and maintain, when necessary, a carriage or carriages suitable for the conveyance of such articles or of persons suffering under any infectious disorder, and may pay the expense of conveying therein any person so suffering to a hospital or other place of destination."

This act contains many other important and useful provisions in relation to hospitals, quarantine, reports of sickness from hotel keepers, common carriers and physicians, abatement of nuisances and kindred subjects. Minnesota has also legislated fully against river and water pollution and offensive and dangerous trades.

In Michigan the local Board of Health is composed of the Township Board, *i. e.*, the Supervisor, the two Justices of the Peace, and the Township Clerk. In Indiana this might be changed to the Township Trustee, the school directors and the township physician appointed by the Board of County Commissioners.

Possibly the Congress of the United States might make a worse appropriation of the surplus in the treasury than the distribution of a handsome portion of it among the several States in the ratio of their respective populations to the whole population, to be held in sacred trust like the common school fund, and the interest arising therefrom to be annually expended in the protection of the public health. But were such a thing done, a grand step would be taken toward placing the administration of sanitary affairs upon a practical footing. It would teach the taxpayer that it pays to spend money judiciously to guard the public health. General Ben. F. Butler made restitution to the people of New Orleans ten times over for all he cost them, if the worst they said of him was true, in what he taught them in public sanitation. The people of Memphis arose from their fever stricken city in 1878, and called in the Sanitary Engineer. They listened to his advice, and now have over forty miles of sewerage, scientifically constructed and so ventilated and flushed many times a day from over two hundred automatic flush-tanks, that sewer gas is practically impossible. As a result the city has nearly doubled her population and trade, and the yellow fever has become a thing of the past. It pays to spend money for public health. Indeed is "public health public wealth." But the sordid money consideration is the lowest motive in man's breast. Is it possible that we will do nothing that is good, noble or heroic unless it will pay? If this be true, perhaps the sooner we die out the better.

THE ETIOLOGY OF SCROFULA AND TUBERCULOSIS, WITH SPECIAL REFERENCE TO THE INFLUENCE OF SANITARY MEASURES UPON THESE CONDITIONS.

BY DR. R. B. WETHERILL, LAFAYETTE, IND.

Since the germ theory of tuberculosis has met with such an enthusiastic reception in medical circles, there has been a tendency on the part of the medical profession to ignore all reasoning referring to the etiology of certain diseases which does not directly contribute to the support of this belief. Although recent experiments in experimental pathology have undoubtedly shown that tubercles can be artificially produced from pure cultures of the bacillus tuberculosis, these investigators have signally failed to demonstrate the specific nature of that germ; that is to say, they have been unable to show that tubercle is the constant and inevitable result of peculiar and specific cause—a germ of definite species—and is never produced by any other cause. It is generally admitted that a peculiar condition of the system must exist before consumption, in any of its forms, can be acquired. Now, the scrofulous diathesis is a condition pre-eminently predisposing to the production of the disease, and, in some instances, even acting as the exciting cause. I shall endeavor to show that scrofulosis, though usually inherited, is often acquired by those subject to improper hygienic influences, and that even after its full development in the system a change to more healthy surroundings is often followed by a complete return to health. I shall further show that the relationship between scrofula and tuberculosis is that of cause and effect, and that the scrofulous diathesis is, as it were, the incubation period of the latter disease.

Scrofula is not to be considered a disease, in the strict sense of that term, but we are rather to look upon it as a peculiar type of vitality, predisposing the subject to certain inflammatory affections, which differ widely in their course from the healthy inflammatory process. One possessing this diathesis, is recognized by a thin transparent skin, remarkably free from pigment deposit, and covered with hair of exceeding fineness. Through the delicate skin the superficial subcutaneous veins are plainly visible. The sclerotic coat of the eye is white and glistening, owing to a deficiency of superficial blood vessels. The hair of the scalp is fine in texture and falls out easily, and the scalp itself is dry and covered with a quantity of detached epidermal scales.

Among the other prominent features of this type is a long thin neck, with deep depressions above and below the clavicle, flat chest, and prominent ribs. If the tissues of such a person be subjected to a careful microscopical examination, it will be found that they possess certain distinctive features by which they can be easily differentiated from healthy tissue. Take for example a section of connective tissues from the scrofulous subject, and compare its structure with one taken from a corresponding part of a healthy person and the following striking difference will be observed:

First.—In the former the bundles of connective tissue, which cross each other, so as to form a net-work, are much larger and thicker than those seen in health. The interfascicular spaces in the scrofulous section are narrowed and less clearly defined, and are crowded with numerous small round cells, resulting from a proliferation of endothelium of the lymph spaces. These appearances form a striking contrast with the large open lymph spaces of normal tissue. It is not strange that these great structural changes should produce a decided impress upon the inflammatory process in the scrofulous. If even a slight irritation be directed against these tissues, there will be an enormous increase of cells in the lymph spaces of the surrounding parts. Should the irritation be sufficient to cause an inflammatory reaction, the multiplication of existing connective tissue elements, and the migration of the leucocytes through the veins and capillaries, find but little available space in the already distended lymph spaces, and the resulting pressure seriously impairs the nutrition of the part. Distended to their utmost by the cell infiltration, the lymphatics become wholly or partially obliterated, and the removal of the cell deposit is rendered impossible. The cells now being deprived of their nutrition, atrophy, and undergo a slow form of fatty degeneration; the fat thus formed finally becoming saponified. These changes begin at the center of the morbid process, that being the furthest removed from the source of nutrition. As these degenerative changes effect a condensation of the cells, distending the tissues, the obstruction in the lymphatic vessels is to a limited extent relieved, and the fluids of the part being gradually absorbed, there results a dry cheesey mass composed of atrophied cells and fatty debris. In the early stages of the diseased process a suitable soil is furnished for the growth and reproduction of the bacillus.

Accustomed as we are to associate these organisms with decay, wherever found, we should not be surprised to find them making a lodgment in these dead and dying tissues. If, now, a portion of this cheesy mass be detached from its original site, and be carried by the lymph and blood currents, to distant parts, wherever it lodges, a circumscribed inflammation will be excited which will undergo changes similar to those just described, the final result being the formation of a cheesy mass, containing large colonies of bacteria. Now, as the most accessible channels to these masses of dead and infective tissue are the veins, the favorite place for the arrest of these emboli would be the lungs. Each deposition of morbid material furnishes a new focus for infection, until finally we find the organ literally filled with small inflammatory formations, in various stages of cheesy degeneration, each containing a number of rod-shaped germs; in short, the organ is tuberculous. Although the bacillus plays an important role in these pathological changes, it is highly probable that its relation to the diseased process is that of an irritant, and nothing more. Inoculation from pure cultures of the bacillus tuberculosis have undoubtedly produced characteristic tubercles in the lungs and other organs, but these have also been artificially produced by inoculations of sterilized sand, or powdered glass, or other mechanical irritants. Even in these instances, it was impossible to produce tubercles unless the animals experimented upon possessed a peculiar predisposition thereto. From the views here presented, it follows that without inflammation there can be no tubercle, but that this inflammation must attack subjects whose tissues possess the property of modifying its course and results. Such a property we have already defined as belonging to scrofulosis.

That tubercle is not always the inevitable result of inflammation in scrofulous tissues can be easily understood, when we consider that the original lesion, although far advanced in cheesy degeneration, may become encapsulated, and be thus deprived of its infecting properties. The question is often asked as to whether scrofula can be acquired by those possessing no inherited predisposition to the diathesis? This question can be undoubtedly answered in the affirmative if we admit the deductions drawn from experiments upon lower animals as conclusive.

The observations of Formad have shown that many of the lower animals are scrofulous. In some species this condition is so prevalent that exceptions to the rule are rare; but, on the other hand, in some species scrofula is of rare occurrence. According to the classification of this well-known pathologist, all animals can be divided into two classes, viz : those of scrofulous and those of a non-scrofulous type. The rabbit and guinea pig furnish examples of the former class, and the cat and dog of the latter. The connective tissue of the common domestic rabbit closely resembles in its structure that of the scrofulous human subject, for, as in the latter, the same peculiarity of the lymph spaces exists.

Inflammation in this animal takes the same course as it does in the scrofulous subject, becoming rapidly caseous, and eventually giving rise to tubercles in remote parts of the body. On the other hand, the connective tissue of the cat presents appearances quite similar to those found in the normal human subject, and the usual consequence of inflammation of its tissues is in rapid and complete resolution. The first attempt to produce scrofula artificially was made by Dr. O. C. Robinson,* of Philadelphia, in 1880, his experiments being made principally upon dogs and cats. His method was to keep the animals in close confinement for a period varying from eight months to two years. Little food was given, and that little of an inferior quality. Water was allowed at irregular intervals, and the poor animals were placed so as to have but little light and bad ventilation. The cages in which they were confined were seldom cleaned. Living for a time under these conditions, the health of the animals became seriously impaired, and it was discovered that injuries which had formerly quickly healed would now become chronic sores, the seat of extensive caseous deposits. If, at a still later period, the animals were killed, the lungs and liver were found to be the seat of cheesy tubercles.

Following the methods of Formad I have myself made sections from the tissues of the cat before and after a long imprisonment, in order that I might study the precise histological changes brought about by such confinement. The sections were, of course, made from corresponding and symmetrical parts, in order to present a similar field for examination. The most satisfactory sections were taken from the upper lip. In the preparation made before the imprisonment of the animal, nothing abnormal was observed, either as to the connective tissue bundles, or lymph spaces; but in the one made after a protracted exposure to unhealthy influences a very different view presented itself. The connective tissue bundles had become increased in size, thereby encroaching upon the lymph spaces, which were filled with an abundant formation of proliferating cells. The injury inflicted by removing the portions of tissue for microscopical examination, in the first instance healed kindly, but that resulting from the second experiment remained an open sore, and ultimately became cheesy. Finally, the animal being killed, numerous tubercles were found throughout the lungs and liver. In what manner unnatural and unhealthy influences operate in producing the *initial* changes in the lymphatic and connective tissues, I have been unable to determine, but it is highly probable that the first departure from the normal standard occurs in the lymph or blood, and from thence the morbid process is transmitted to the tissues they nourish. Another very suggestive and instructive fact is to be observed in the case of the rabbit. The domesticated animal is almost always scrofulous, but in the wild state it is rarely so. If, however, a wild rabbit be domesticated, it is not long before it falls a victim to scrofula. I have often observed in cats placed in close confinement for experimental purposes, that any accidental injury they may receive is not likely to heal quickly, but becomes a chronic sore, which finally causes the animal's death. But if an animal in such a condition be set at liberty, and receive good food and plenty of it, these sores rapidly disappear. In such a case we are to infer that the occluded lymph spaces have again become open, thereby permitting a free circulation of lymph through the morbid infiltrate, and speedy resolution is the result.

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* Philadelphia Medical Times, vol. xii., p. 130.

Another striking example is that in menageries and zoölogical gardens, and in fact all places where animals are in close confinement, scrofula is very common among the stock, and nearly all of them so affected die from tuberculosis. Now have we any facts to show that the human organism will react in the same manner when exposed to unhealthy surroundings of a similar nature? Assuredly, yes. It is a well known fact that when an extensive slave trade was carried on with Africa a high mortality from tubercular disease existed among the slaves during the early period of their captivity. While they enjoyed the wild freedom of their native jungle the disease was comparatively unknown, but as soon as they were taken to the coast and confined in filthy and contracted slave pens, or crowded in the foul holds of sailing vessels, the mortality from this dread disease was frightful. Again, it is not generally known that in those hospitals under the management of various religious sects, the scrofulous condition is quite common among the nurses, and the mortality from tubercular consumption is very high. Several years ago I was connected with such an institution, and during a period of eighteen months there were five deaths from this disease. Enthusiastic supporters of the germ theory will say that the disease was contracted while attending consumptive patients, the deadly bacillus having been taken directly into the lungs. This explanation, however, does not seem plausible here, as the majority of the resident inmates had no duties in the general wards. Undoubtedly in these cases the predisposing causes were overwork, prolonged fasting, vitiated air, and want of outdoor exercise.

These are the causes which produce such a high mortality from tuberculosis in many prisons. Several years ago, while in the city of Vera Cruz, I visited the prison of San Juan d'Ulloa, a national repository for Mexican criminals, situated on a small island in the Gulf of Mexico, not far from the city. The prisoners here are confined in damp, musty cells, dimly lighted, and with no ventilation whatever except what is derived from the doors and through the thick stone walls. They were kept in filth and idleness, and all of them bore unmistakable signs of impaired health. I was subsequently informed that nearly all of the prisoners died from pulmonary tuberculosis, and very few survived an imprisonment of ten years. It is, however, unnecessary to go so far away from home to study these evil influences. resulting from bad hygiene. The peculiar conditions of life under which the poorer classes in our great cities live is certainly responsible for the widespread prevalence of scrofulous and tubucular diseases. Concentration of manufacture and commerce to certain restricted centers have crowded a vast number of families into a very limited space, and such a community must necessarily be exposed to all the sanitary evils of an over populous district. Their condition would not be so hopeless if they were in a position to provide themselves with comfortable dwellings and good nourishing food, but this does not seem possible in many places, as competition has effected such a reduction in wages as to allow barely enough to support life. Overworked and underfed they become physically and constitutionally feeble, and fall a ready prey to scrofula and its allied diseases. The children of such parents enter the world with the constitutional weakness which their parents have acquired, and if they do not die in infancy their subsequent employment in the factories, at least, renders such a result certain in early life. I know of no better example of the degeneration of a civilized race than that furnished by some of the larger manufacturing districts in England, where father and son pursue the same occupation for generations, living the while among the most unhealthy surroundings.

To show what favorable results can be obtained by the enforcement of strict sanitary regulations in over populous districts, I will quote from the elaborate statistical reports of Dr. Buchanan.* For a basis of operation he took twenty-five English towns, with an aggregate population of six hundred thousand inhabitants, and whose mortality rates had been accurately determined for a number of years. In these places the following sanitary reforms were inaugurated, viz.: Improved drainage as regards surface soil, subsoil and houses; (2) removal of all filth, from whatever source; (3) a careful supervision of lodging houses, and particularly as regards overcrowding, and, lastly, measures to prevent the contamination of the water supply. These sanitary improvements having been in operation for several years, the death rate was again carefully taken and the results of the two periods compared. A marked decrease in the death rate from consumption was noted, the reduction being from 11 to 45 per cent. In twelve towns the death rate was lowered from 25.6 to 21.7 for each thousand inhabitants. The average reduction in mortality from phthisis was 25 per cent. If we were to apply these results to the death rate in this State there would be an annual reduction of six hundred deaths in tubercular diseases alone, there being, each year a mortality of twenty-five hundred from these causes. In reviewing the facts here presented, one must be greatly impressed with the importance of sanitary measures in diminishing the mortality from scrofulous and tubercular diseases. Whatever is the relation between these diseases, there can be no doubt that it is of a most intimate nature, and recent pathological and statistical studies render it highly probable that the former is a necessary step in the production of the latter.

With these facts before us, the most encouraging returns are to be expected from sanitary science, which, by a strict enforcement of its laws, will be enabled to reduce the frequency of a disease which is at once the most prevalent and most destructive met with in the practice of medicine.

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* Ziemssen's Encyclopedia, vol. xix, p. 341.

PREVENTIVE MEDICINE.

BY J. S. ARWINE, M. D., COLUMBUS, IND.

Without stretch of imagination, I think it may be said that the idea of preventing disease was originated in the middle third of this nineteenth century, and is an outgrowth of the two most prominent opinions that engrossed the public mind in regard to the diseases with which they were afflicted. The first popular wave of opinion with which the people wrestled taught that disease was a necessary accompaniment of human existence, which could only be removed, or cured, by conjuration, incantation, or divination, but could in no way be prevented.

The investigation of this dogma gave rise to a second wave of opinion, which spread over all christendom and imbued the public mind with the idea that disease could be cured by the use of medicines.

The people imbibed the idea that God had provided remedies, in some form or other, sufficient to remove all the ills with which his children might be afflicted.

This new thought prompted men to undertake the work of experimental investigation, which, I believe, makes it safe to say that every species of vegetable has been used in some way or other as a healing agent, and thousands of compounds have been made from vegetable, mineral, and animal substances, all of which have been used and recommended by the profession and laity for the cure of diseases. But when we sum up the history of the past and carefully note the experience and observations of our predecessors, which have been recorded for our guidance, we are forced to the conclusion that many of these remedies and compounds are of no value whatever in the treatment of diseases, and that the use of some of them is positively harmful, while the use of others is of doubtful propriety in any case. Yet some remedies and compounds appear to be of inestimable value to man, as they possess power to control the most excruciating pain, to quiet nervousness, equalize the circulation and cool fever, and in so doing they apparently restore health and vigor of both body and mind to the weary sufferer. But after all the toil and years that have been spent in search over the face of the earth, there has been no *aqua vita* found, no vegetable discovered, nor compound made of sufficient potency to relieve man of the penalty of violated laws. The outgrowth of this failure in experiment and research has partially developed the idea of preventive medicine; it has brought men to understand that if they escape disease they must obey laws; that preventive medicine is a true science, governed by laws which demands obedience from all, and in complying with these demands man finds his only hope of perfect health.

When we study nature in her manifold operations, we discover that law governs in all things, and if we enjoy health and longevity we must obey nature's laws, as disobedience to them brings disease. It is natural for us to conclude that the same power that develops disease can likewise prevent them

Every observing physician knows that nature possesses a much greater power in the cure of diseases than is generally admitted.

Physicians study anatomy and become so familiar with the geography of the human body that they can locate and name correctly any bone, muscle, nerve, blood vessel and gland. Histology, which enables them to describe minutely the various changes that take place in protoplasm, or the cell changes that necessarily take place during the growth and development of the human body.

They study physiology until they can describe all the functions of which life is a manifestation, namely: The circulation of the blood, muscular contraction, nutrition, sensation, respiration, excretion, digestion, absorption, and the functions of procreation, with all subordinate faculties, the maintenance of temperature, and the production of vocal sounds, with the phenomena of mental operations. They may understand or comprehend the organs by which all these functions are performed, and the matters which they attract, or reject, as well as the nature of that which they retain, and the forces which attract or transports matters, and be able to give a reason why they are retained or rejected. They may discover the nature of the stimuli appropriate to each organ in the body, and the manner in which each organ reacts when stimulated.

They may become so thorough in pathology that they can give the symptoms produced by the functional derangement of the different organs in the human body, such as constitute disease, and enables them to locate the organs hindered or obstructed in normal action, as it is these which give the diagnostic and pathognomonic symptoms by which they can discriminate between diseases that nearly resemble each other. It is by these disturbances that physicians are enabled to locate the footprints of diseases, and tell upon what organs they may be found, or the effects produced upon internal parts prior to the post mortem examination.

Physicians become so thoroughly conversant with materia medica and therapeutics that they can give the dose and effect that each medicine is said to have upon an individual, and name the disease in which each medicine is said to be indicated. In short, they may become so proficient in the seven departments of the so-called medical science that they can bear the crucial test of the most rigid examination by the renowned professors of medical colleges, and obtain their diplomas as a guarantee to the public of their qualifications to practice the healing art.

Having attained to this proud distinction among men, they are inspired with confidence in their own ability to cure diseases. They remember distinctly that this medicine is said to relieve pain, and this one quiets nervousness, and that one will dispel fever as readily as the morning sun melts the frost and displaces its stinging bite.

With these vivid recollections, and full confidence in their own scientific ability, they direct the healing portion with full expectation of seeing the bloom of health restored to the blanched cheek as by the wave of a magician's wand. But oh how frequent their proud anticipations are crushed by the icy hand of death being laid upon their patients.

They stand appalled, while their hope of fame is washed away by the tears of the friends and relations of their patients, who, perchance, may have been hastened to premature graves by the inordinate use of medicines.

Be this as it may, physicians do not, as a rule, distrust medicine. The best years of their lives have been spent in studying the science of medicines, and they have been taught that medicine scientifically administered removes disease, and they feel that its benefit to the human family is beyond price. They do not consider that ignorance may be the cause of all premature bereavement, but take the flattering unction to themselves that all was done for their patients that could have been done.

They scarcely consider the propriety of the medicines they prescribe, as they are guided in the use of medicines by the most recent and popular authors on theory and practice. In their enthusiasm they fail to notice this simple truth. No careful observer has ever been satisfied with the results obtained by the use of any known medicine.

Every system or course of treatment that has been adopted for the cure of diseases is attended with unsatisfactory results, and will always continue to disappoint the people who rely upon them, as curative medicine to a large extent depends upon the accuracy of the observations, and recorded experiences of our predecessors in their use of medicines, together with the discriminating ability of the prescriber rather than upon any well defined law governing the action of medicines.

That the truth of this declaration may be apparent to all, I will ask, who among you, after years of experience in the use of medicines, does not at times feel helpless in the contest with disease? does not feel his inability to control the diseases with the medicines at his command.

Who among all the physicians of earth knows a medicine, or a combination of medicines, that is sufficiently potent to enable him to control the diseases he may be called upon to treat? I dare say not one.

But I believe every thinking man feels that there is something better than any thing now known that awaits his race; remedies sufficiently potent to prevent diseases.

To confirm this opinion, we have only to observe the efforts of chemists and pharmacists who are striving in every possible way to produce such a remedy.

These efforts I take as proof that there is in the chamber of the human mind an innate idea kept back by selfishness.

Fettered as it is, I believe it is growing, and that it is beginning to shed its light upon human understanding, and men are being convinced every where that health and longevity must be governed by laws which are inexorable, and that those who would enjoy perfect health must render implicit obedience to these laws.

But at this time the science of preventive medicine is attracting but little attention; medical teachers are in the main teaching students curative medicine.

Men, in general, are not willing to acknowledge their inability to set aside the penalty of broken laws.

I think the truth of this position will be established by directing your attention to the labors of scientists, who, armed with microscope, and culture fluids, are using all their skill to discover Amœbe, Micrococci, Spirilli, Bassilli, or some other micro-organism, which they fancy to be the cause of diseases. When they have once discovered such micro-organism, they propose to capture and domesticate them, by successive cultivation, in order that they may be used by the people to guide them around the penalties of violated laws. In other words they propose to carry out Hanemann's theory of similia similibus curantur, and attenuation. They claim that by a succession of cultivations they can render these micro-organisms so nearly innoccuous that they, like homœpathic medicine, can be administered without hurt, or inconvenience to the patient, and still act as a specific in the prevention of diseases.

In this way they propose to extinguish the Bacterian family, which will necessarily extinguish diseases, the cause being destroyed the effects must cease, and man's health and life be perpetuated indefinitely.

But I would not disparage art, as it has done much for the human family, and will doubtless do much more.

But, after all that has been done, is there not reason to base our hope upon far better things, have we not evidence of an approaching year of jubilee. A coming time when the people will no longer rely upon man's ability to relieve them from sickness, which is the penalty of broken laws.

Does not the sign of the times indicate a quickening in the human mind?

The dawn of a new era in human understanding, is there not evidence sufficient to convince the skeptical, that as the years roll on, preventive medicine will be taught the coming generation until it supplants all other systems of medicine. The work has already began, a war of extermination has been waged against the curse of modern civilization, and no quarters will be shown until manhood is no longer disgraced by intoxicants! God speed the day! Then let us hail with joy the dawn which has already appeared, beams of light are darting across the benighted minds of men.

Women are being permitted to take their rightful places beside the proud and arrogant lords of creation, and are proving themselves to be help meets indeed. They, like Joan of Arc, may be found in the front ranks of the battle with intoxicants.

Their clarion notes are to be heard in every State of our Federal Union urging men on, shouting on, on to victory over strong drink.

Away with intoxicants, the withering, damnable curse of our race and the despoiler of our homes. The enchantress, whose seductive charms captivates, husbands, fathers, sons and brothers, and fills this fair land of ours with every phase of crime, with widows and orphans, with squalor, poverty and want, until the air is rent with the cries of innocent, helpless children who are starving for bread, and the stillness of night after night is broken by the sighs and lamentations of heart-broken mothers, whose husbands have been carried away by an inordinate thirst for strong drinks. They have left wives and children shivering with cold and pinched with hunger, until their appeals for succor, for protection, have knocked at the gates of heaven and the echo has been sent back to sympathetic ears on earth; and men and women of true courage have heard and enlisted in the cause of humanity.

Brave men and women are enrolling themselves everywhere; an invincible army is being enlisted to put down man's most subtle foe. Their skirmish line is on the advance. The enemy's pickets have been driven back at several places in these United States, and his strongholds are being placed under besiegement, and at no distant day King Alcohol will be banished from America, because brave men and women have determined to drive from this God given country the cause of nine-tenths of the crimes and diseases with which the people are distressed, that their intellects may be untrammeled by vice. And then, and not until then, can this country in truth be called the land of the free and the home of the brave.

LOMB PRIZE ESSAY.

DISINFECTION AND INDIVIDUAL PROPHYLAXIS AGAINST INFECTIOUS DISEASES.

BY GEORGE M. STERNBERG, M. D., MAJOR AND SURGEON U. S. ARMY.

INTRODUCTION.

Definition. We are met, at the outset, by a difficulty growing out of the fact that the word *disinfection*, as commonly used, has a very different signification from that to which certain recent authors would restrict it. Thus, the Committee on Disinfectants of the American Public Health Association, defines a disinfectant as "an agent capable of destroying the infective power of infectious material." [1] In the preliminary report of this committee the reasons for restricting the meaning of the word within the limit justified by its etymology, and of our knowledge of the nature of "infectious material," are very clearly stated, as follows:

"The object of disinfection is to prevent the extension of infectious diseases by destroying the specific infectious material which gives rise to them. This is accomplished by the use of disinfectants.

"There can be no partial disinfection of such material; either its infecting power is destroyed or it is not. In the latter case there is a failure to disinfect. Nor can there be any disinfection in the absence of infectious material. * *

"Popularly, the term disinfection is used in a much broader sense. Any chemical agent which destroys or masks bad odors, or which arrests putrefactive decomposition, is spoken of as a disinfectant. And, in the absence of any infectious disease, it is common to speak of disinfecting a foul cesspool or a bad smelling stable or a privy vault.

"This popular use of the term has led to much misapprehension, and the agents which have been found to destroy bad odors—deodorizers—or to arrest putrefactive decomposition—antiseptics—have been confidently recommended and extensively used for the destruction of disease germs in the excreta of patients with cholera, typhoid fever, etc.

"The injurious consequences which are likely to result from such misapprehension and misuse of the word disinfectant will be appreciated when it is known that recent researches have demonstrated that many of the agents which have been found useful as deodorizers, or as antiseptics, are entirely without value for the destruction of disease germs.

"This is true, for example, as regards the sulphate of iron, or copperas, a salt which has been extensively used with the idea that it is a valuable disinfectant. As a matter of fact, sulphate of iron in saturated solution does not destroy the vitality of disease germs, or the infecting power of material containing them. This salt is, nevertheless, a very valuable antiseptic, and its low price makes it one of the most available agents for the arrest of putrefactive decomposition in privy vaults, etc.

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[1] The Medical News, Philadelphia, January 24, 1885, p. 87.

"Antiseptic agents also exercise a restraining influence upon the development of disease germs, and their use during epidemics is to be recommended when masses of organic material in the vicinity of human habitations can not be completely destroyed, removed or disinfected.

"While an antiseptic agent is not necessarily a disinfectant, all disinfectants are antiseptics; for putrefactive decomposition is due to the development of germs of the same class as that to which disease germs belong, and the agents which destroy the latter also destroy the bacteria of putrefaction when brought in contact with them in sufficient quantity, or restrain their development when present in smaller amounts.

"A large number of the proprietary 'disinfectant,' so-called, which are in the market, are simply deodorizers or antiseptics of greater or less value, and are entirely untrustworthy for disinfecting purposes."[1]

The offensive gases given off from decomposing organic material are no doubt injurious to health, and the same is true, even to a greater extent, of the more complex products known as *ptomaines*, which are a product of the vital—physiological—processes attending the growth of the bacteria of putrefaction and allied organisms. It is therefore desirable that these products should be destroyed; and, as a matter of fact, they are neutralized by some of the agents which we recognize as disinfectants, in accordance with the strict definition of the term. But they are also neutralized by other agents—deodorants—which can not be relied upon for disinfecting purposes, and by disinfectants, properly so-called, in amounts inadequate for the accomplishment of disinfection. Their formation may also be prevented by the use of *antiseptics*. From our point of view the destruction of sulphureted hydrogen, of ammonia or even of the more poisonous ptomaines, in a privy vault, is no more disinfection than is the chemical decomposition of the same substance in a chemist's laboratory. The same is true as regards all of the bad smelling and little known products of decomposition. None of these are "infectious material," in the sense in which we use these words; that is, they do not, so far as we know, give rise *directly* to any infectious disease. Indirectly they are concerned in the extension of the epidemic "filth diseases," such as cholera and yellow fever, and of the fatal endemic filth diseases, such as typhoid fever and diphtheria, which in the long run claim more victims than do the pestilential maladies first named. This because persons exposed to the foul emanations from sewers, privy vaults, and other receptacles of filth, have their vital resisting power lowered by the continued respiration of an atmosphere contaminated with these poisonous gases, and are liable to become the victims of any infectious disease to which they may be exposed. Moreover, the accumulations of filth which give off these offensive gases furnish pabulum upon which certain disease germs thrive, and it may happen that the bad smelling air carries something worse than the poisonous gas which makes its presence known by offending the sense of smell. It may waft to our nostrils infectious particles which are beyond recognition by any sense, unless it be the sense of sight with the aid of a good microscope. We desire, moreover, to have it fully understood that in restricting the meaning of the term disinfection within the limits given by the definition of the Committee on Disinfection of the American Public Health Association, we do not wish to limit the practice of "disinfection," in the popular sense of the word.

It is but fair to say, also, that this popular usage is supported by good authority, and, until quite recently, has been the common acceptation of the term among physicians and chemists. Indeed, it is but a short time since the nose test was the only test of "disinfection" recognized by many intelligent persons.

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[1] The Medical News, April 18, p. 425.

Littré, in his Dictionary of the French Language, defines disinfectants as "substances which destroy, chemically, bad odors."

Vallin, the author of the best modern treatise upon "Disinfection and Disinfectants," says: "From a scientific point of view, there is, perhaps, an impropriety in introducing into the idea of disinfection the suppression of odors which offend the sense of smell. The bad odor is not injurious in itself; it is the epiphenomenon, which does not necessarily give the measure of the hurtful properties of the air or of any substance whatever. The public, unacquainted with medicine, has an unfortunate tendency to judge of insalubrity by the bad odor; the absence of this gives to it a deceitful security. When they are masked by any device, it [the public] believes that all danger has been removed. *Nevertheless, it is necessary to avoid violating the ordinary sense of words.*[1] An atmosphere which does not in the least offend the sense of smell may certainly be insalubrious and engender the gravest maladies, but the fetid or disagreeable odors may reveal the presence of injurious principles, of toxic gases, or of organic matter in decomposition. We should not too much diminish the importance of these offensive odors in the eyes of the public; everything which smells badly is to be suspected."[2]

We agree with Prof. Vallin that the bad odors should arouse suspicion and lead to the use of deodorants, or of antiseptics, or of disinfectants, if required, but let us not leave the public to suppose that when the bad odors have been neutralized the offensive material has been disinfected. Let us rather instruct the public that to deodorize and to disinfect are not one and the same thing, and that deodorant and disinfectant are not synonymous terms. For our part we prefer to "violate the ordinary sense" of the word, and to restrict its signification within such limits as will prevent confusion, and, what is far worse, a reliance upon inefficient methods for the destruction of infectious material. In the present essay we shall use the words disinfection and disinfectant in accordance with the definition of the committee on disinfectants already given. But, inasmuch as this is intended to be a practical treatise for popular use, we shall also give, in the proper place, directions for the use of deodorants and of antiseptics, so that "disinfection," in the broad sense in which the word is commonly used, may be fully considered.

Tests of Disinfection. What means have we of proving that the infective power of infectious material has been destroyed?

Evidence of disinfection may be obtained (a) from the practical experiments—experience—of those engaged in sanitary work; (b) by inoculation experiments upon susceptible animals; (c) by experiments made directly upon known disease germs.

(a) It is a matter of common experience that when a room has been occupied by a patient with an infectious disease, such as small-pox, scarlet fever, or diphtheria, susceptible persons are liable to contract the disease, weeks, or even months, after the patient has been removed from it, unless in the meantime it has been disinfected. If a second case does occur from exposure in such a room, it is evident that it has not been disinfected. But the non-occurrence of subsequent cases can not always be taken as evidence that the means of disinfection resorted to were efficient. Negative evidence should be received with great caution. In the first place the question as to whether susceptible individuals have been fairly exposed in the disinfected room must be considered. Then it must be remembered that susceptible persons do not always contract a disease even when they are exposed in a locality known to be infected. A further difficulty in estimating the value of evidence obtained in practice arises from the fact that in connection with the special means of disinfection resorted to, such as fumigation, hanging up cloths saturated with a disinfecting solution, etc., it is customary to resort to additional precautionary measures, such as washing surfaces with soap and hot water, whitewashing plastered walls, and free ventilation. It is apparent that under these circumstances it would be unsafe to accept the fact that no other cases occurred in a room treated in this way, as evidence that the particular disinfectant used is efficient for the destruction of the infectious agent of the disease in question. The fond mother who attaches a charm to her child's neck to protect it from evil, also takes the precaution of guarding it from contact with other children who are sick with any infectious disease. If her child, fortunately, grows to manhood or womanhood without having suffered an attack of scarlet fever or diphtheria, she may imagine that her charm has protected it, but the evidence upon which her faith is founded is not of a nature to convince those who are familiar with scientific methods of demonstration. "Well educated" persons are often ready to testify in favor of methods of disinfection, or of treatment, upon evidence which, from a scientific point of view, has no more value than that which the fond mother in question has to offer in favor of the little bag containing camphor or asafœtida, or some other charm of equal value, which she has attached to her child's neck to keep it from catching scarlet fever or diphtheria at school. On a par with these charms, so far as disinfection is concerned, we may place the saucer of chloride of lime, which was formerly the fashion to place under the bed of a patient sick with an infectious disease, the rag saturated with carbolic acid, or chloride of zinc, suspended in the sick room, and even the fumigations with burning sulphur, as sometimes practiced by those who are unfamiliar with the evidence as to the exact value of this agent, and the conditions necessary to insure successful disinfection with it.

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[1] Italics by present writer.

[2] Op., cit., p. 2.

Chloride of lime, sulphurous acid gas, and carbolic acid, are among our most useful disinfecting agents, but disease germs are not to be charmed away by them any more than by a little bag of camphor.

Having pointed out the fact that negative evidence, in a restricted field of observation, must be accepted with great caution in estimating the value of disinfectants, we hasten to say that the combined experience of sanitarians derived from practical efforts to restrict the extension of infectious diseases, is of the greatest value, and that this experience is to a great extent in accord with the results of exact experiments made in the laboratory.

(b) Inoculation experiments upon susceptible animals, made directly with infectious material which has been subjected to the action of a disinfectant, have been made by numerous observers. The proof of disinfection in this case is failure to produce the characteristic symptoms which result from inoculation with similar material not disinfected. Thus, Davaine found that the blood of an animal just dead from the disease known by English writers as anthrax or splenic fever (Fr. Charbon), inoculated into a healthy rabbit or Guinea pig in the smallest quantity, infallibly produces death within two or three days, and the blood of these animals will again infect and cause the death of others, and so on indefinitely. This anthrax blood, therefore, was infectious material, which could be utilized for experiments relating to the comparative value of disinfectants. Davaine made many such experiments, not only with the blood of anthrax, but also with that of a fatal form of septicæmia in rabbits, which is known by his name.

Other investigators have followed up these experiments upon infectious material of the same kind, and also upon material from other sources, *e. g.*, the infectious material of glanders, of tuberculosis, of symptomatic anthrax, of fowl cholera, of swine plague, etc. It has been proved that the infectious agent in all of the diseases mentioned is a living germ, and that disinfection consists in destroying the vitality of this germ. But in experiments made with blood or other material obtained directly from diseased animals, the results would be just as definite and satisfactory if we were still ignorant as to the exact nature of the infecting agent. This test shows the destruction of infecting power without any reference to the cause of the special virulence, which is demonstrated to be neutralized by certain chemical agents in a given amount. All of the experiments made with the above mentioned kinds of virus have been made upon the lower animals; but there is one kind of material which it is justifiable to use upon man himself, and with which numerous experiments of a very satisfactory character have been made. This material is vaccine virus. Fresh vaccine, when inoculated into the arm of an unvaccinated person, gives rise to a very characteristic result, the vaccine vescicle. The inference seems justified that any agent which will neutralize the specific infecting power of this material will also neutralize the small-pox virus. Thus far it has not been definitely proved that the infective agent in vaccine virus is a living germ; but the numerous experiments made have shown that the chemical agents, which have the power of destroying the various kinds of infectious material heretofore mentioned, have also the power, in about the same amount of neutralizing vaccine virus, as shown by its failure to produce any result when inoculated into an unvaccinated person. In these experiments the more careful investigators have taken the precaution of vaccinating the same person with disinfected and with non-disinfected virus from the same source. A successful vaccination with the non-disinfected virus shows that the indivdiual is susceptible and the material good; failure to produce any result is evidence that the potency of the disinfected virus has been destroyed by the chemical agent to which it was exposed.

(c) As already stated it has been demonstrated that the infectious diseases of the lower animals, which have furnished the material for experiments upon disinfectants by the method of inoculation are "germ diseases," and that the infectious agent is in each case a living micro-organism, belonging to the class known under the general name of *Bacteria.* The bacteria are vegetable organisms, which, by reason of their minute size and simple organization, must be placed at the very foot of the scale of living things. But they make up in number and in rapidity of development for their minute size, and there is good reason for believing that the infectious diseases of man are also caused by pathogenic—disease-producing—organisms of the same class. Indeed, this has already been proved for some of these diseases, and the evidence as regards several others is so convincing as to leave very little room for doubt. Many of these disease germs are now known to us, not only by microscopic examination of the blood and tissues of infected animals, but also by "culture experiments." That is, we are able to cultivate them artificially in suitable media, and to study their mode of development, etc., in the laboratory, quite independently of the animals from which our "pure cultures" were obtained in the first instance.

The culture fluids used are prepared from the flesh of various animals, and when to one of these a certain quantity of gelatine is added we have a "solid culture medium," upon the surface of which some of these germs will grow most luxuriantly. To start such a "culture" it is only necessary to transfer, with proper pre cautions, a minute quantity of the infectious material to the surface of our culture medium, or into a fluid which has been found to be suitable for the growth of the particular organism which we desire to cultivate. A second culture is in the same way started from the first, and so on indefinitely.

Now, it is evident that these "pure cultures" furnish us a ready means for testing the power of various chemical agents to destroy the vitality of known disease germs, as shown by their failure to grow in a suitable culture medium after exposure for a given time to a given percentage of the disinfectant. Very many experiments of this nature have been made during the past three or four years. The reader who desires fuller details as to the method of conducting such experiments, and of the results obtained, is referred to the preliminary reports of the Committee on Disinfectants of the American Public Health Association, published during the current year (1885) in the *Medical News*, Philadelphia, and which will, doubtless, also be published in full in the next annual volume of the Association. We may say here that the experimental data on record indicate that those agents which are efficient for the destruction of any one of the pathogenic organisms upon which experiments have been made, or of harmless species of the same class, *e. g.:* the bacteria of putrefaction, are efficient for the destruction of all *in the absence of spores.* There is, it is true, within certain limits a difference in the resisting power of different organisms of this class to chemical agents. This is not, however, sufficiently marked to prevent the general statement that a *disinfectant for one is a disinfectant for all, in the absence of spores.* The last clause of *the above* statement calls for an explanation and certain details with reference to the mode of reproduction of disease germs. All of the bacteria multiply by binary division, that is one individual divides into two, and each member of the pair again into two, and so on. The spherical bacteria, known as *micrococci,* multiply only in this way, but the rod-shaped bacteria, or *bacilli,* also form spores. These spores correspond with the seeds of higher plants. They are highly refractive, oval or spherical bodies, which under certain circumstances make their appearance in the interior of the rods, which cease to multiply by binary division when spore formation has taken place. The point of special interest with reference to these spores is, that they have a resisting power to heat and to the action of chemical disinfectants far beyond that which is possessed by micrococci, or by bacilli without spores. The difference may be compared to the difference between a tender plant and its seeds to deleterious influences, such as extremes of heat and cold. Thus the spores of certain species of bacilli withstand a boiling temperature for several hours, while a temperature of 150° Fahrenheit quickly kills most bacteria in the absence of spores. A similar difference is shown as regards the action of chemical agents. Certain agents, *e. g.,* sulphurous acid gas and carbolic acid, which are extensively used as disinfectants, have been proved by exact experiments to be quite impotent for the destruction of spores. This being the case, it is advisable, in practical disinfection, always to use an agent which has the power of destroying spores in those cases in which the exact nature of the disease germ has not been demonstrated. The cholera germ of Koch does not form spores, and there is good reason to believe that the same is true as regards the germs of yellow fever, of scarlet fever and of small-pox, which have not yet been demonstrated. This inference is based upon evidence obtained in the practical use of disinfectants, and upon certain facts relating to the propagation of these diseases. A second general statement, which is justified by the experimental evidence on record, is, that *agents which kill bacteria in a certain amount, prevent their multiplication in culture fluids when present in quantities considerably less than are required to completely destroy vitality.* An agent, therefore, which in a certain proportion and in a given time acts as a germicide in a smaller quantity may act as an *antiseptic, i. e.*, may prevent putrefactive decomposition by restraining the development of the bacteria of putrefaction. Antiseptics also prevent or retard the development of pathogenic bacteria. It follows from this that germicides are also antiseptics, but the reverse of this proposition is not true as a general statement, for all antiseptics are not germicides. Thus alcohol, common salt, sulphate of iron, and many other substances which are extensively used as antiseptics have scarcely any germicide power, even in concentrated solutions, and consequently would be entirely unreliable as disinfectants. Practically, antiseptics may accomplish the same result in the long run as we obtain in a short time by the use of disinfectants. If, for example, we prevent the development of the germs of cholera, or of typhoid fever, in an infected privy vault by the continued use of antiseptics, these germs will in time lose their ability to grow when introduced into a suitable culture medium. But in the mean time there is always the possibility that some of them may escape with the fluid contents of the vault into the surrounding soil and contaminate some well or stream from which drinking water is obtained. For this reason privy vaults, cess pools and sewers should never be allowed to become infected. All infectious material, such as the dejections of patients with cholera or typhoid fever, should be destroyed at its source in the sick-room, or, if it is ascertained that such material has been thrown into a privy vault, the entire contents of the vault should be promptly disinfected. The same rule applies to infectious material thrown upon the ground, or wherever it may be.

Finally, we desire to emphasize the following propositions:

Disinfection consists in extinguishing the spark, killing the germ, which may light up an epidemic in the presence of a supply of combustible material—filth.

The object of *general sanitary police* is to remove this combustible material out of the way, so that no harm may result even if the spark is introduced.

Antiseptics and deodorants are useful when it is impracticable to remove offensive organic material from the vicinity of human habitations, but they are a poor substitute for cleanliness.

PART FIRST.

DISINFECTION.

It will be our aim in the present chapter to give reliable, practical directions with reference to the use of disinfectants and the best methods of disinfection. Keeping this object in view we shall recommend for disinfecting purposes only those agents named in the following list:

Group 1.

Disinfectants which have the power of destroying spores:

1. Fire.
2. Steam under pressure (25 pounds).
3. Boiling water.
4. Chloride of lime (in solution).
5. Liquor sodæ chlorinatæ.
6. Mercuric chloride (in solution).

Group 2.

Disinfectants which are effective in the absence of spores:

7. Dry heat (230° Fahr. for two hours).
8. Sulphur dioxide.
9. Carbolic acid.
10. Sulphate of copper (in solution).
11. Chloride of zinc (in solution).

NOTE.—In the present state of knowledge, a division of disinfecting agents into two groups becomes necessary, unless we would entirely dispense with the use of those agents named in our second group, which can not be relied upon for the destruction of spores, and consequently can not be recommended for the destruction of all kinds of infectious material. As this group includes several agents which are extensively used for disinfecting purposes, and which we believe to possess great practical value, we have considered it necessary to make this distinction. The present state of science, however, does not enable us to classify all infectious diseases in the same way, and, in case of doubt, it will always be advisable to use those agents included in Group 1. But in the absence of a precise knowledge of the nature of the germ we may, in certain cases, be governed by the practical experience of sanitarians, and by experiments which have been made directly upon infectious material, *e. g.*, on vaccine virus. In our recommendations we have taken account of this kind of evidence, as well as laboratory experiments, in which known disease germs, or harmless organisms of the same class, has served as the test of disinfecting power.

We shall first give a brief account of the conditions of successful disinfections with these agents, as established by experimental data, and afterward detailed directions for their employment under the various circumstances in which disinfection is required:

1. *Fire.* It is hardly necessary to say that burning of infectious material, infected clothing, etc., is an effectual method of disposing of it. This method of disinfection is always to be recommended when practicable or consistent with a due regard for economy and the rights of individuals. As a rule, articles of little value, which have been soiled with infectious material, had better be burned, and this is especially true of old clothing and bedding. But we have other efficient methods of disinfection which make it unnecessary to sacrifice articles of value, except under unusual circumstances.

2. *Steam Under Pressure.* The disinfecting power of steam given off from boiling water in an open vessel does not differ from that of the water itself, but confined steam has a temperature corresponding with the pressure as indicated by a steam gauge. At twenty pounds pressure the temperature is about 230° Fahr. (105° C.); at twenty-five pounds it is about 240° Fahr.; at thirty pounds it is 250° Fahr. Moist heat, at the lowest temperature named, destroys the most resistant spores in twenty minutes, while a temperature of 240° Fahr. is effective almost immediately.[1]

3. *Boiling.* In the absence of spores, bacteria are quickly killed at a temperature considerably below the boiling point of water, and it is safe to say that boiling for half an hour will destroy all known disease germs, including the spores of anthrax, which have less resisting powers than the spores of certain harmless and widely distributed bacilli, which have been found to resist boiling for several hours.

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[1] See Preliminary Report of Committee on Disinfectants, in Medical News, Philadelphia, March 14, 1885, p. 284.

4. *Chloride of Lime* (chlorinated lime, bleaching powder). This is one of the cheapest and most efficient of disinfectants. It should be packed in air-tight and moisture-proof receptacles, glass is preferable, and should contain at least twenty-five per cent. of available chlorine.[1] It should be used in solution, which had better be made as required. An insoluble residue will be left, which may be removed by filtration or decantation. This, however, is not at all necessary. Chlorinated lime owes its disinfecting power to the presence of the hypho-chlorite of lime, a salt which is freely soluble in water, and which is quickly decomposed by contact with organic matter. Germs of all kinds, including the most resistant spores, are destroyed by this solution, but it must be remembered that the disinfectant itself is quickly decomposed and destroyed by contact with organic matter, and that if this is present in excess, disinfection may not be accomplished, especially when the germs are imbedded in masses of material which are left after the hypho-chlorite of lime has all been exhausted in the solution.

5. *Liquor Sodæ Chlorinatæ* (Labarraque's Solution). This is a solution of the hypo-chlorite of soda. Its value as a disinfectant corresponds with that of solutions of the hypho-chlorite of lime of the same strength. The preparations in the market vary greatly in value, and some of those tested by the Committee on Disinfectants[2] were found to be practically without value. This is due to the fact that the solution does not keep well. For this reason, and on the score of economy, a solution of chloride of lime will be preferable for most purposes. Labarraque's solution is, however, a more pleasant preparation for bathing the surface of the body, and both as a deodorant and a disinfectant will be found useful in the sick room. It should, at least, contain three per cent. of available chlorine.

6. *Mercuric chloride* (bichloride of mercury, corrosive sublimate). This salt is well known as a deadly poison, which has long been used in domestic practice as a "bug poison." Recent researches show that it has germicide powers of the first order, and it is consequently a disinfectant which may be recommended for certain purposes, due regard being had to its poisonous nature, and to the fact that it is decomposed by contact with lead, tin or copper, and that lead pipes are soon rendered brittle and worthless by passing through them solutions of mercuric chloride. Its potentcy in dilute solutions, 1:500 to 1:4000, makes it comparatively cheap,[3] and the danger of accidental poisoning from such dilute solution is not very great. The concentrated solutions should be colored, as a precaution against accident, for they have neither color nor odor to reveal their deadly nature. A standard solution which contains four ounces to the gallon of water is of convenient strength for a concentrated solution, to be issued by manufacturers or health authorities, in properly labeled bottles. This may be colored with permanganate of potash,[4] or with indigo, or with aniline blue.

Inasmuch as standard solution No. 2, of the committee on disinfectants, is colored with the permanganate it would perhaps be better to give this solution a blue color. The writer would suggest the following formula, in which another poisonous metallic salt cantained in our list is combined with mercuric chloride:

Bichloride of mercury	4 ounces.
Sulphate of copper	1 pound.
Water	1 gallon.

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[1] The test for available chlorine is given in Preliminary Report No. 11, of the Committee on Disinfectants, l. c., January 7, p. 148.

[2] l. c., p. 659.

[3] It costs about fifty cents a pound in quantity.

[4] Ten grains to the gallon is sufficient.

It must be remembered, in using this and other disinfecting solutions, that the condition relating to the time of exposure to the action of the disinfecting agent is an important one. The experimental evidence[1] relating to the germicide power of mercuric chloride shows that the time of exposure being two hours this salt may be safely recommended for the destruction of spore-containing infectious material in the proportion of 1:1000, and of pathogenic organisms in the absence of spores in the proportion of 1:4000, or even less, *provided that the micro-organisms to be destroyed are fairly exposed to its action.* The fact that mercuric chloride combines with and coagulates albuminous material interferes to some extent with its value as a disinfectant, and will be kept in view in the recommendations to be made hereafter relating to the practical use of this agent.

Mercuric chloride is an efficient antiseptic in the proportion of 1:15,000 and it exercises a restraining influence upon the development of the spores of the anthrax bacillus, when present in culture solutions, in the proportion of 1:300,000, and even less.

7. *Dry Heat.* Dry heat is only to be recommended for the disinfection of such articles as would be injured by exposure to moist heat, or to a disinfecting solution. A properly constructed disinfection chamber or "oven" is absolutely essential, if dry heat is to be used. The experimental evidence on record [2] shows that the destruction of spores requires a temperature which would injure woollen fabrics (140° C. for three hours). In the absence of spores, however, articles which are freely exposed for two hours to a temperature of 110° C. (230° Fahr.) may, with safety, be considered disinfected. In practice, it will be necessary to remember that the penetrating power of dry heat is very slight, and that packages, bundles, or even articles loosely thrown one upon another, can not be disinfected in this way.

8. *Sulphur Dioxide* (sulphurous acid gas). Fumigation with burning sulphur has long been a favorite method of disinfection. The experience of sanitarians is in favor of its use in yellow fever, small-pox, scarlet fever, dyphtheria, and other diseases in which there is reason to believe that the infectious material does not contain spores. The experimental evidence on record [3] shows that under certain conditions it is effective for the destruction of micro-organisms in the absence of spores, but that it is quite impotent for the destruction of these reproductive elements. The presence of moisture adds greatly to the disinfecting power of this agent. It is freely soluble in water, one volume dissolving fifty volumes of the gas. It is, therefore, evident that a saturated aqueous solution is fifty times as strong as the pure gas—anhydrous. In aqueous solution, in the proportion of 1:2000 by weight, sulphur deoxide kills micrococci in two hours' time. [4] In a gas-tight receptacle it destroys the infecting power of vaccine virus dried upon ivory points, when present in the proportion of one volume per cent., the time of exposure being six hours. [5] The same proportion destroys anthrax bacilli, without spores, from the spleen of an animal recently dead, dried upon silk threads, in thirty minutes (Kock). These facts show that sulphur dioxide is a valuable disinfectant; but the conditions of successful disinfection, as established by the experimental evidence, are that the material to be disinfected shall be freely exposed to its action for a considerable time *in a receptacle which does not permit the*

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[1] The Medical News, Feb. 21, p. 205.

[2] See Medical News, March 14, p. 283.

[3] See Prelim. Rep., No. VII, The Medical News, March 28, p. 343.

[4] l. c., p. 348.

[5] l. c., p. 344,

gas to escape. It must be remembered that disinfection of a thin layer of vaccine virus upon an ivory point, or of anthrax blood upon a silk thread, exposed in a gas-tight receptacle, can not be taken as evidence that thicker layers of infectious material attached to the surface of bedding and clothing, or inclosed in folded blankets, bundles of clothing, mattresses, etc., can be disinfected by the same amount of sulphur dioxide generated in a room which is not gas-tight.

It has been shown, by carefully conducted experiments,[1] that the escape of sulphurous acid gas from a bed-chamber or hospital ward is very rapid, in spite of the usual precautions for stopping of crevices when such a room is to be fumigated; and infectious material enclosed in bundles or protected by folds of blankets, etc., may escape disinfection after having been exposed for many hours in a tightly closed chamber containing ten volumes per cent. of this gas.

9. *Carbolic Acid.* The disinfecting power of carbolic acid has been fixed by experiments upon vaccine virus, and upon various pathogenic organisms. A saturated aqueous solution can not, however, be relied upon for the destruction of spores; but in the absence of spores it is fatal to micro-organisms in the proportion of 2 per cent., the time of exposure being two hours. Indeed, less than 1 per cent. is fatal to several of the species of pathogenic micrococci which have served as test organisms in the numerous experiments which have been made with this agent.[2] Upon the recommendation of the famous Dr. Koch, the discoverer of the cholera bacillus, the committee on disinfectants of the International Sanitary Conference of Rome (1885) has given this agent the first place for disinfecting soiled clothing, excreta, etc., in cholera. For excreta it is to be used in 5 per cent. solution, and for clothing, etc, in 2 per cent. solution. The experimental evidence upon record indicates that it may be relied upon in this proportion.

10. *Sulphate of Copper.* This salt has been largely used as a disinfectant in France, and recent experiments show that in the proportion of 1 per cent. it is a reliable agent for the destruction of micro-organisms, in the absence of spores. It is much below mercuric chloride in germicide power, but is a better deodorant—not a better antiseptic—than the more poisonous salt. When we take into account its efficiency, it is comparatively cheap, and is to be recommended for certain purposes. It may be combined with the more potent germicide, mercuric chloride, in accordance with the formula already given.

11. *Chloride of Zinc.* Solutions of chloride of zinc are largely used in this country and Europe for disinfecting purposes. It is an excellent antiseptic and deodorant, but its power to destroy disease germs has been very much overestimated. It may, however, be relied upon for the destruction of pathogenic organisms, in the absence of spores in solutions, which contain from 5 to 10 per cent. of the salt

GENERAL DIRECTIONS FOR DISINFECTION.

"In the sick room we have disease germs at an advantage, for we know where to find them, as well as how to kill them. Having this knowledge, not to apply it would be criminal negligence, for our efforts to restrict the extension of infectious diseases must depend largely upon the proper use of disinfectants in the sick-room."[3]

Disinfection of Excreta, Etc. The dejections of patients suffering from an infectious disease should be disinfected before they are thrown into a water-closet or privy vault. This is especially important in cholera, typhoid fever, yellow fever and other diseases in which there is evidence that the infectious agent is capable of self-multiplication, in suitable pabulum, external to the human body. Vomited matters and the sputa of patients with these and other infectious diseases, should also be promptly disinfected. This is especially important in cholera, diphtheria, scarlet fever, whooping cough and tuberculosis. It seems advisable, also, to treat the urine of patients sick with an infectious disease with a disinfecting solution.

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[1] l. c., page 347.

[2] Prelim. Rep. of Com. on Disinfectants, No. VI, l. c., p. 317.

[3] Prelim. Rep. of Com. on Disinfectants of A. P. H. A.

For the disinfection of excreta, etc., in the sick-room, a solution of chloride of lime is to be recommended. This is an excellent and prompt deodorant as well as a disinfectant. A quart of the standard solution (No. 1), recommended by the Committee on Disinfectants, of the American Public Health Association, will suffice for an ordinary liquid discharge in cholera or typhoid fever; but for a copious discharge it will be prudent to use twice this quantity, and for solid fecal matter a stronger solution will be required. As chloride of lime is quite cheap, it will be best to keep on the safe side and to make the solution for the disinfection of excreta by dissolving eight ounces of chloride of lime in a gallon of water. This solution should be placed in the vessel before it receives the discharge. The material to be disinfected should be well mixed with the disinfecting solution, by agitating the vessel, and from thirty minutes to an hour should be allowed for the action of the disinfectant, before the contents are thrown into a water-closet or privy vault.

Standard Solution No. 2, of the committee on disinfectants, which contains two drachms of corrosive sublimate and two drachms of permanganate of potash to the gallon of water, if used freely, one quart for each dejection, and left in contact with the material to be disinfected for at least four hours, is a reliable disinfectant *for liquid discharges.* The caution with reference to lead pipes must be remembered, and if this solution is used in the sick-room or hospital wards, it will be desirable to have receptacles of wood or earthern-ware for the disinfected material, which may be carried away and emptied in a suitable locality once in twenty-four hours. The blue solution heretofore suggested would also be suitable for use in the same way, and with the same precautions. It contains four ounces of corrosive sublimate and a pound of sulphate of copper to the gallon of water. This concentrated solution should be diluted in the proportion of eight ounces to the gallon of water, and the diluted solution used as heretofore recommended, at least a quart for each dejection, and four hours time. The disinfecting power of the copper salt adds to the value of this solution, and the bright blue color of the concentrated solution leaves nothing to be desired in the way of a color protection against accidental poisoning. For the disinfection of the discharges of cholera patients, a five-per-cent. solution of carbolic acid may be used in accordance with the recommendation of the International Sanitary Conference of Rome. The time necessary to insure disinfection is fixed at four hours. Chloride of zinc in ten per cent. solution may be used for the dejection of cholera patients, the same conditions being observed in regard to quantity and time of exposure as were fixed for the other metallic salts named It will be best to burn cloths used to wipe away the discharges of the sick, and especially those used in wiping away the infectious material from the mouth and nostrils of patients with diphtheria or scarlet fever. Bits of old muslin may be used for this purpose, and should at once be thrown upon an open fire or gas stove arranged in the fire place for this purpose. Infected sputum may be discharged directly into a cup half full of the solution of chloride of lime recommended for excreta, or of Labarraque's solution. Handkerchiefs, napkins and towels used in wiping away infectious discharges, if worth preserving, should be at once immersed in one of the following solutions:

Chloride of lime, 2 per cent.; carbolic acid, 2 per cent.; mercuric chloride, 0.1 per cent. (=1:1000). The blue solution (containing sulphate of copper) diluted in the proportion of four ounces to the gallon of water, may also be used for this purpose. Cloths used for washing the general surface of the body should also be disinfected with one of the above mentioned solutions; and attendants should invariably disinfect their hands by washing them in one of these solutions when they have been soiled by the discharges of the sick.

Disinfection of the Person. Labarraque's solution, diluted with twenty parts of water, is a suitable disinfecting solution for bathing the entire surface of the body of the sick, of convalescents, or of those whose duties take them into the sick room; or a 1 per cent. solution of chloride of lime, or a 2 per cent. solution of carbolic acid may be used.

The International Sanitary Conference of Rome, gives the following directions with reference to the disinfection of the body after death from cholera:

"The body should be enveloped in a sheet saturated with one of the strong disinfecting solutions [1], without previous washing, and should at once be placed in a coffin."

We see no objection to washing the body, if the strong solution of chloride of lime is used for this purpose. Washing with water would necessitate the careful disinfection of the water and cloths used for this purpose, and of the hands of the attendants. As the odor of chlorine or of carbolic acid would be objectionable under certain circumstances, we see no good reason for insisting upon the use of these agents, rather than on the odorless solution of mercuric chloride, which, in the proportion of 1:1000, would, no doubt, be equally effective. But when there is an odor of decomposition to be neutralized, the solution of chloride of lime will have a decided advantage on account of its deodorizing properties.

Disinfection of Clothing and Bedding. The cheapest and best way of disinfecting clothing and bedding, which is not injured by the ordinary operation of the laundry, is to immerse it in boiling water for half an hour or longer. It should be placed in boiling water as soon as removed from the person or the bed of the sick, and if it is necessary to remove the articles from the room in order to accomplish this, they should be wrapped in a sheet or towel, thoroughly saturated with a disinfecting solution. It is impracticable to disinfect such infected clothing and bedding *immediately* by boiling, it will be necessary to immerse it in one of the following disinfecting solutions in which it should be left for four hours: Mercuric chloride, 1:2000; or the "blue solution," of this salt and sulphate of copper, diluted by adding two fluid ounces of the concentrated solution to a gallon of water, or 2 per cent. solution of carbolic acid. The solution of chlorinated lime (2 per cent.) may also be used, but we give the precedence to the first mentioned solutions, because of the bleaching properties of this solution. The blue solution does not injure clothing, and is to be perferred for domestic use to a simple solution of corrosive sublimate, which in the concentrated form is highly poisonous, and without odor or color. When diluted, as directed, this solution may, however, be used without danger either from absorption through the hands or by drinking. The metallic taste of the diluted solution could scarcely fail to prevent a fatal dose from being swallowed accidentally.

For outer clothing, and other articles which would be seriously injured by immersion in boiling water, the best disinfectant is *steam.* Exposure to steam at 100° C. (212° Fahr.) for half an hour would be equivalent to exposure in boiling water for the same time if the clothing is hung up in such a manner as to be fairly brought under the action of the disinfecting agent. To be certain that the steam does not fall below this temperature in the disinfecting chamber, a thermometer must be placed in a corner of the room, at a distance from the point of entrance of the steam, or in an aperture from which the steam escapes. This should mark at least 100° C. for half an hour before the disinfection can be considered complete.[1] To accomplish this, it is evident that the steam must come from the generator at a higher temperature, or, in other words, must be under pressure. It must be remembered that the destruction of spores is the most difficult test of disinfecting power known, and one which excludes the use of carbolic acid; sulphur dioxide, and other agents which enjoy the confidence of sanitarians, and which have been proved by laboratory experiments to destroy pathogenic organisms in the absence of spores. There is good reason for the belief that *dry heat* and *sulphurous acid gas* may be safely substituted for steam for the disinfection of the clothing of patients with cholera, yellow fever and small-pox, and probably in several other infectious diseases (puerperal fever, erysipelas, diphtheria (?) and scarlet fever (?)). As disinfection by steam will injure certain articles, *dry heat* may be used as a substitute for moist heat, but in this case a temperature of at least 110° C. (230° Fahr.), maintained for two hours, will be required. In the use of dry heat, even greater care is necessary, that the articles to be disinfected are freely exposed,—that is, not placed in the oven in bundles, or piled one upon another, but freely suspended in the disinfecting chamber. For it has been shown by carefully conducted experiments that the penetrating power of dry heat is very slight. A properly constructed disinfection oven, such as that of Ransom,[2] will be required if dry heat is to be used.

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[1] Chloride of lime 4 per cent., or carbolic acid 5 per cent.

As the appliances for disinfecting with steam or with dry heat are somewhat expensive, these agents are not likely to supplant, for general use, the time-honored practice of fumigation with sulphurious acid gas. This method of disinfection commends itself because of the cheapness of the material used and the facility of its application.

Sulphur dioxide is a less reliable disinfectant than steam or dry heat, but when the necessary conditions are observed there is no doubt of its utility, and the fact that it does not kill the spores of anthrax and of other bacilli, is no reason for rejecting an agent which has been demonstrated by experience to be one of great value, which has been proved by laboratory experiments to be fatal to pathogenic organisms in the absence of spores, and to destroy the infecting power of vaccine virus. But in using this agent the conditions of successful disinfection, which have been established by experiment, should be borne in mind. The room which is to serve as a disinfecting chamber must be very thoroughly closed, every crevice and key-hole should be carefully stopped with cotton, or by placing paper over it. Even this precaution will not prevent the rapid escape of gas from cracks around doors, windows, etc. It is, therefore, desirable, when practicable, to use a disinfecting chamber which can be hermetically closed. The articles to be disinfected must be freely exposed, and should never be thrown into the room in bundles or piled one upon another.

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[1] The committee on disinfectants of the International Sanitary Conference of Rome fixes one hour as the time during which steam should be made to pass over the articles to be disinfected.

[2] British Medical Journal, Sept. 6, 1873, page 274.

We concur in the recommendations of the Committee on Disinfectants of the American Public Health Association, as to the amount of sulphur which should be burned, and the method of effecting its complete combustion.

"To secure any result of value, it will be necessary to close the apartment to be disinfected as completely as possible by stopping all apertures through which gas might escape, and to burn at least three pounds of sulphur for each thousand cubic feet of air space in the room. To secure complete combustion of the sulphur, it should be placed in powder or in small fragments, in a shallow iron pan, which should be set upon a couple of bricks in a tub partly filled with water, to guard against fire. The sulphur should be thoroughly moistened with alcohol before igniting it."[1]

Finally, we would remark that in the absence of suitable appliances for disinfection, and in general when the infected articles are of little value, consumption by fire furnishes the readiest and safest method of disposing of such articles. For articles of value, such as upholstered furniture, etc., which would be injured by any of the processes heretofore recommended, free exposure to the air (æration) for three or four weeks is directed by the Committee on Disinfectants of the International Sanitary Conference of Rome. The same committee directs that "objects made of leather, such as trunks, boots, etc., should be destroyed, or washed several times with one of the weak disinfection solutions," carbolic acid 2 per cent., or chloride of lime 1 per cent.

The means heretofore recommended for the disinfection of woollen clothing, blankets, and similar articles will not be sufficient for soiled mattresses. As a rule, they should be opened and the contents disinfected by steam or by dry heat, with subsequent free æration, and the cover should be washed in boiling water after treatment with a disinfecting solution.

Disinfection of the Sick Room. Every effort should be made to prevent a room occupied by patients, sick with an infectious disease, from becoming infected. Carpet, stuffed furniture, curtains, and other articles difficult to disinfect, should be removed at the outset. Indeed, nothing should be left in the room, which is not absolutely required, and all furniture and utensils should be of such a character that they can be readily disinfected by washing with boiling water or with a disinfecting solution. Abundant ventilation and scrupulous cleanliness should be maintained, and a disinfecting solution should always be at hand for washing the floor, or articles in use, the moment they are soiled by infectious discharges. For this purpose a solution of chloride of lime may be used (4 per cent.). It is impracticable to destroy infectious material in an *occupied* apartment by means of gases or volatile disinfectants, for to be effective these must be used in a degree of concentration which would make the atmosphere of a room quite irrespirable. These agents are therefore useful only as deodorants They are all more or less offensive to the sick, and will seldom be required, even as deodorants, when proper attention is paid to cleanliness and ventilation. Daily wiping of all surfaces, floors, walls and furniture, with a cloth wet with a disinfecting solution, is to be recommended. For this purpose a solution of chloride of lime (2 per cent.), or of carbolic acid (2 per cent.), or of mercuric chloride (1:2000), may be used.

By such precautions as have been indicated the infection of the sick room may be prevented, especially in those diseases such as cholera and typhoid fever, in which the infectious agent is not given off in the breath or from the general surface of the body of the sick person. In small-pox and in scarlet fever there is great danger that the infectious agent may remain attached to surfaces in the room, for the atmosphere becomes infected with particles given off from the surface of the patient's body. As already stated, the atmosphere can not be disinfected while the room is occupied. There is much less reason for disinfecting it when the patient has been removed, and it is much simpler to renew it by throwing open the doors and windows than to attempt to disinfect it. Indeed, there will be no infectious particles to destroy, except such as are disloged from surfaces-window ledges, etc., where they have settled as dust while the room was occupied; and if the precautions above recommended have been taken the danger of such reinfection of the atmosphere will be reduced to a minimum.

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[1] Preliminary Report, l. c., p. 427.

Disinfection of the vacated room, then, consists in the destruction of all infectious particles which remain attached to surfaces or lodged in crevices, in in, terstices of textile fabrics, etc. The object in view may be accomplished by thorough washing with one of the disinfecting solutions heretofore recommended, but most sanitarians think it advisable, first, to fumigate the room with sulphur deoxide. This practice is to be recommended, and the directions given by the committee on disinfectants, already quoted, should be followed (3 pounds of sulphur to 1000 cubic feet of air space). At the end of from twelve to twenty-four hours doors and windows should be opened and the room freely ventilated. After this fumigation all surfaces should be washed with a disinfecting solution (chloride of lime 2 per cent., carbolic acid 2 per cent., or mercuric chloride 1:1000), and afterwards thoroughly scrubbed with soap and hot water. Plastered walls should be whitewashed. The fumigation recommended is especially important in the case of rooms the walls of which are covered with paper, and in rooms from which curtains, carpets, etc., have not been removed; and under these circumstances it will, as a rule. be advisable to repeat the fumigation a second or even a third time. The process is inexpensive, and the old saying that "Whatever is worth doing at all is worth doing well," applies with especial force to the use of disinfectants. Excessive precautions can do no harm, but the inefficient use of disinfecting agents, which result from indifference or from ignorance of the precise value of the agents relied upon, may be disastrous.

Disinfection of Privy Vaults, Cesspools, Etc. The contents of privy vaults and cesspools should never be allowed to accumulate unduly, or to become offensive. By frequent removal, and by the liberal use of antiseptics, such necessary receptacles of filth should be kept in a sanitary condition. The absorbent deodorants, such as dry earth or pounded charcoal, or the chemical deodorants and antiseptics, such as chloride of zinc, sulphate or iron, etc., will, under ordinary circumstances, prevent such places from becoming offensive. Disinfection will only be required when it is known or suspected that infectious material, such as the dejections of patients with cholera, yellow fever, or typhoid fever, has been thrown into the receptacles, which are especially dangerous because they already contain pabulum suitable for the development of the germs of these diseases. Mercuric chloride commends itself especially for the disinfection of such masses of material, because, even if any germs escape immediate destruction, they will fail to multiply in the presence of this potent antiseptic. The chloride of lime solution, on the contrary, is preferable for use in the sick-room because of the promptness and certainty of its germicide action and its deodorizing power. But it has the disadvantage, where large masses of material are to be disinfected, that it is itself destroyed by contact with organic matter, and that if there is a surplus of infectious material after the disinfecting solution has been neutralized, this will be as potent for mischief as a larger quantity would have been.

Mercuric chloride should be used *in solution*, in the proportion of "*one pound for every five hundred pounds, estimated, of fecal matter contained in the vault.*" [1]

All exposed portions of the vault, and the woodwork above it, should be thoroughly washed down with the disinfecting solution. [2]

The subsequent daily use of a smaller quantity of the same solution would insure the continued disinfection of fresh material thrown into the vault; or chloride of lime in powder may be freely scattered over the contents after the first disinfection with mercuric chloride. A diluted powder, made by mixing one pound of chloride of lime with nine pounds of plaster of Paris, or of clean, well-dried sand, may be used for this purpose. This is more easily spread about, can be used more economically, and is sufficiently strong in chlorine for practical purpose. As chloride of lime is an excellent deodorant as well as a disinfectant, such a powder commends itself for general use in open privy vaults and cesspools, not only during the prevalence of epidemics, but at all times when they give evidence of being in an unsanitary condition.

Hospitals. The directions already given in regard to disinfection of the sick room and its contents apply as well to hospital wards in which patients with infectious diseases are treated. In addition to this it will be necessary in hospitals to guard against such infectious diseases as erysipelas, septicæmia, puerperal fever and hospital gangrene. The antiseptic treatment of wounds, in connection with a proper regard for cleanliness and ventilation has practically banished these diseases from well regulated hospitals. Of the first importance in effecting this are the precautions now taken with reference to the disinfection of sponges, instruments, the hands of attendants, etc.

Instruments of silver, such as probes and catheters, may be disinfected by passing them through the flame of an alcohol lamp. Instruments of steel, gum catheters, etc., may be disinfected by immersion in a five per cent. solution of carbolic acid, or in 1:1000 solution of mercuric chloride. For instruments and vessels of copper, brass and tin, boiling water or the carbolic acid solution may be used. Vessels of porcelain or glass may be disinfected by heat, or by either of the disinfecting solutions mentioned. Sponges should be kept permanently in one of the disinfecting solutions, or, what is better, may be dispensed with entirely for the cleansing of wounds. In place of them, irrigation with a disinfecting solution may be resorted to, or the discharges may be wiped away with some cheap absorbent material which can be burned after having been once used.

Patients in hospitals with infectious diseases will, of course, be kept in isolated wards. Everything which comes from such a ward should be disinfected, and the immediate attendants of the sick should not be allowed to visit other parts of the hospital without first changing their outer clothing for a recently disinfected suit, and washing their hands in a disinfecting solution. When relieved from duty their underclothing should also be disinfected, and they should take a complete bath with one of the weak disinfecting solutions heretofore recommended. Every hospital should be provided with a steam disinfecting apparatus, or with an oven for disinfection by dry heat.

Disinfection of Water and Articles of Food. The disinfection of drinking water on a large scale in reservoirs, wells, etc., is impracticable. But it is a very simple matter to disinfect water which is suspected of being contaminated with the germs of cholera, typhoid fever, or any other disease transmissible in this way. This is readily accomplished by boiling. As already stated, all known disease germs are destroyed by the boiling temperature maintained for half an hour. The importance of this precaution during the prevalence of an epidemic of cholera or of typhoid fever can not be overestimated, when the water used for drinking purposes comes from an impure source, or is liable to contamination by the discharges of patients suffering from these diseases. Those articles of food, and especially milk, animal broths, etc., which might serve as pabulum for disease germs should, during the prevalence of an epidemic, be cooked for a short time before they are eaten. And such food, if put aside for some hours after it has been prepared, should always again be subjected to a boiling temperature shortly before it is served. Food which gives evidence of commencing putrefaction is unfit for use, and in time of epidemics is especially dangerous.

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[1] Recent experiments made by the writer make it apparent that the complete sterilization of large masses of fecal matter in privy vaults, would be a difficult and expensive undertaking, if not entirely impracticable. It is, therefore, of prime importance that infectious material should be destroyed before it is thrown into a receptacle of this kind.

[2] Prelim. Rep. of Com. on Disinfectants, l. c.

Disinfection of Ships. It should be the aim of a physician attached to a passenger ship, or of the master of a vessel having no physician on board, to prevent the vessel from becoming infected when in an infected port, or when cases of infectious disease occur on board. This is to be accomplished by keeping the ship clean; by disinfecting suspected articles, and especially the soiled clothing of passengers before they are received on board, by the isolation of cases of infectious disease which occur on board, and by the thorough execution of those measures of disinfection recommended for the sick room. When a case of cholera or of yellow fever occurs upon a ship at sea, it can not be taken as evidence that the vessel is infected unless at least five days have elapsed since the person attacked came on board. For he may have contracted the disease from exposure at the port of departure, or in some other locality on shore. When, however, a longer time than this has elapsed, or when several cases develop in a particular locality on ship board, either simultaneously or successively, the vessel must be considered infected, unless it is shown that the cases are directly due to the opening of baggage containing infected clothing.

In practice, the sanitary officials at the port of arrival usually treat a vessel as infected if any cases of infectious disease have occurred upon her during the voyage. This is a safe general rule which should not be departed from unless a considerable time, five to seven days, has elapsed since the cases occurred, and they can be cleary traced to exposure before coming on board. In this case, if the ship is clean and the precautions relating to disinfection and isolation of the sick have been faithfully executed, the health officer may be justified in dispensing with the general measures of disinfection which are required for an infected ship. These measures do not differ from those heretofore recommended for the disinfection of the sick room and its contents, but the special conditions on ship board, and the great interest at stake make it essential that the execution of these measures should be in the hands of sanitary experts. In the disinfection of ships, fumigation with sulphurous acid gas is a measure of prime importance, and is largely practiced by those in charge of quarantine establishments. The fact that the ship may be almost hermetically closed, and the escape of gas to a great extent prevented, makes this method of disinfection more trustworthy than in the case of dwellings and hospitals. The further fact, that certain parts of the ship are inaccessible for the application of disinfecting solutions seems to make the use of a gaseous disinfectant imperative. Disinfection by means of steam, especially of an iron vessel, would no doubt be a difficult matter on account of the condensation which would occur from contact with the cool walls of the vessel below the water line. But it will be well to fill the vessel with steam before introducing the sulphur dioxide; for, as already stated, the disinfecting power of this agent is much greater in presence of moisture. A well equipped quarantine establishment should have an apparatus for generating sulphurous acid gas, and injecting it into vessels as this is the most expeditious and satisfactory method of fumigating a ship.[1]

An essential part of the disinfection of a ship will consist in the thorough cleansing of the bilge. The International Sanitary Conference, of Rome, prescribes that the bilge water shall be pumped out and replaced by sea water at least twice at each disinfection of the vessel. This is very well so far as it goes, but we would also recommend that after such cleansing, the potent disinfectant, mercuric chloride, be added to the clean sea water remaining in the bilge in the proportion of one pound to the ton of water, estimated. In the case of ships sailing from ports infected with yellow fever, it would be a wise precaution, after the cleansing of the bilge at the point of departure, to throw the same amount of mercuric chloride, dissolved in salt water, into the bilge, and to add a smaller quantity of the same solution at intervals during the voyage.

Merchandise. Article V of the Report of the Committee on Disinfectants, of the International Sanitary Conference, of Rome, says:

"V. Disinfection of merchandise and of the mails is unnecessary. (Steam under pressure is the only reliable agent for the disinfection of rags—*les chiffons en gros.*)"

We think this statement too broad, especially so far as merchandise is concerned, which has been on board a ship infected with yellow fever. The poison of this disease seems to be capable of self-multiplication on a foul ship in tropical latitudes, quite independently of passengers and crew. As there is ample evidence that even when no case has occurred on an infected ship at sea, those who are engaged in discharging her cargo after her arrival in port, may be seized with yellow fever from breathing the infected atmosphere of the hold. Evidently merchandise conveyed on such a ship should be disinfected. But it does not seem necessary to break packages which have gone on board in good condition, and a thorough fumigation with sulphurous acid gas will be sufficient if the unbroken packages are so distributed as to be fairly exposed to the action of the disinfecting agent. To accomplish this, and to effectually disinfect the ship, it will be necessary to discharge the cargo at the quarantine station.

The collections of the rag-man can not properly be placed in the same category with other merchandise, such as agricultural products, hardware, new cotton, or woolen goods, etc. An exception with regard to rags is indicated, but not stated with sufficient precision, in the article which we have quoted. There is evidence that small-pox has been not infrequently transmitted by rags, and sanitarians are generally agreed that it would be very imprudent to admit rags collected in or shipped from localities infected with cholera or yellow fever, without first subjecting them to thorough disinfection. The only practical way of accomplishing this seems to be by means of super-heated steam. To make this effective it will be necessary to open the bales and spread out the rags in such a manner that they may be freely exposed to the action of the disinfecting agent, or to inject the steam under pressure into the interior of the bale through perforated metal tubes, as is practiced at the New York quarantine station.

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[1] The New Orleans quarantine establishment is provided with an apparatus of this kind which seems to be well adapted for the purpose. See paper by Dr. Joseph Holt, in the Annual Report of the A. P. H. A. for 1884.

PART SECOND.

INDIVIDUAL PROPHYLAXIS AGAINST INFECTIOUS DISEASES.

The State establishes quarantine stations to guard against the introduction of infectious diseases of exotic origin; and in enlightened countries sanitary officials, under the direction of the central government, or of States and municipalities, are charged with the duty of guarding the public against such diseases. It is generally recognized that this is to be accomplished by the isolation of the sick, the use of disinfectants, and by general measures of sanitary police. One way in which the individual may indirectly protect himself against such diseases is by using his influence to have this sanitary service placed in the hands of competent men and in sustaining them in their efforts to exclude or stamp out infectious diseases by such measures as have been demonstrated by science and experience to be efficient for this purpose.

But this is not the kind of "individual prophylaxis" which we have to consider here? The question is, What can the individual do to protect himself and those immediately dependent upon him under the various circumstances in which he may be placed, and especially in the presence of an epidemic? As the advice we have to give will differ greatly, according to the disease, we shall pass in review the principal infectious maladies of man, and shall attempt to give for each such practical instructions as will enable an intelligent person to take all practicable precautions for his own protection, and for that of his immediate family. We have first, however, to make some general remarks.

Infectious diseases are contracted by contact with the sick, through the medium of infected articles—"fomites"—or by exposure in infected localities. The evident general rule of prophylaxis is, therefore, to avoid all of these sources of infection; but there are circumstances in which this is either impossible or unjustifiable. Duty calls the physician and the nurse into the sick room, and no argument based upon self-protection can keep the devoted mother from the bed-side of her sick child, or the wife from giving her personal attention to her husband, or the husband to his wife when stricken by pestilence Humanity requires that during an epidemic the sick shall be cared for, the dead buried, and the foul places cleansed. All this call for the active and intelligent efforts of persons who have the courage to face danger, and not only of those who by their profession are necessarily brought in contact with the sick—physicians, clergymen, sanitary officials, nurses—but often, also, of volunteers; for during the prevalence of an epidemic of cholera, or of yellow fever, the number of physicians and trained nurses within the infected area is commonly insufficient for the care of the sick.

The history of epidemics shows that brave men and women are to be found in every civilized country who are willing to volunteer for such perilous duties, and also that physicians, and those whose legitimate duty it is to care for the sick, very rarely desert their post in time of danger, but the mortality among these brave men and women who stand by their guns, and among the volunteers who go to their assistance is often very great. There is a wide spread notion among people not familiar with the facts that doctors enjoy a certain immunity from infectious diseases not possessed by other people, and that the absence of fear is a safeguard against infection. Such a supposition is without foundation, and is an insult to the brave men and women who fall at their post of duty in every epidemic. Courage is no more a protection against disease germs than against bullets. It is true that in epidemics as in war, the skulkers and cowards often run into danger which the men in the ranks escape. The rashness which results from ignorance or from thoughtlessness is not courage any more than the prudence which avoids danger when there is no good reason for facing it is cowardice. Those who rashly venture within the lines drawn by an epidemic in the pursuit of business or pleasure, on the supposition that they will escape the prevailing disease because they are "not afraid," often fall victims to their unreasoning temerity, and not infrequently beat a hasty retreat, with blanched face, when they are brought directly into the presence of the sick and the dying. Our advice to the brave is, do not put your trust in your courage, for it is no armor against infection. Rely rather upon those precautions which science and experience indicate as best suited to the special circumstances in which you may be placed, and do not hesitate to retreat before an invisible foe when you are not required by considerations of duty to remain upon the field of battle. If your services are not required you are simply in the way, and if you fall ill, you add to the labors of those who devote themselves to the care of the sick. And to the timid we would say, let not your fear control your actions, but look the circumstances fairly in the face, and be guided by reason and knowledge, or by the advice of those competent to decide for you. A premature flight may bring you into ridicule. or into greater dangers than those you flee from. Do not let your fear exaggerate the facts, and weigh these in the balance of your reason, and not of your apprehensions. The fact that Judge A, or Colonel B has fallen a victim to cholera or yellow fever is no more reason for deserting your home than is the fact that the humblest citizen of your town has died from the same disease. If courage is no protection against infection, it can not be denied that fear, in the presence of the infectious agent is a predisposing cause which frequently determines an attack, and which may turn the balance in favor of a fatal result. The depressing effect of fear is well known, and all influences which reduce the vital resisting power of the individual predispose to an attack when an epidemic is prevailing. Other predisposing causes of a general nature are those conditions of enfeebled resistance which result from ill health, venereal and bacchanalian excesses, etc. Of all these, it is probable that excessive indulgence in intoxicating drinks is the most potent factor in swelling the mortality returns during the prevalence of pestilential diseases. This predisposing cause act in several different ways. The individual whose reason is befuddled by drink stumbles stupidly into all kinds of danger. He is "not afraid" to sleep upon the ground, exposed to the night air when yellow fever is prevailing, or to quench his thirst with water which a prudent man would reject as unfit to drink in the presence of cholera, or to wrap himself in a blanket which has recently been in use by a patient with small-pox. Again, the debility often attended with digestive derangement which follows a recent debauch, constitutes a most favorable condition for the reception of the germs of cholera, of yellow fever, and of infectious diseases generally. Those who use intoxicating drinks habitually, but within the limits marked by that mental aberration or loss of reason which constitutes intoxication, are less liable to infection than the man who is suffering from the effects of a recent "spree." But if they have any organic disease of the stomach, the kidneys or the liver, as a result of their habits, this constitutes a predisposition to be attacked, and is a very serious complication when an attack is developed. Persons suffering from chronic wasting diseases, profuse discharges, or recent hemorrhages, are especially liable to become the victims of an infectious disease during its epidemic prevalence. The same is true of those whose vital resistance is below par from insufficient food, or from the continued respiration of vitiated air, crowd poisoning, sewer gas poisoning, etc.

In addition to the predisposing causes mentioned, which furnish indications of more or less value with reference to individual prophylaxis, there are individual race differences in susceptibility to certain diseases manifested by those who are in perfect health. One man may be repeatedly exposed to an infectious disease without falling sick, while another may suffer several attacks of a disease, such as small-pox, in which one attack commonly confers immunity. Race differences in susceptibility are shown in the relative immunity of the negro from the effects of the yellow fever poison, and the susceptibility of the same race to small-pox.

We shall now consider, in detail, the question of individual prophylaxis against certain infectious diseases, which, by reason of their fatality and occasional widespread epidemic prevalence, seem entitled to special attention in an essay of this nature.

CHOLERA.

In Asiatic cholera, the danger of infection from association with the sick, in the capacity of nurse or physician, is very slight. This is amply demonstrated by experience. On the other hand, laundresses, who do not come directly in contact with the sick, but who handle clothing soiled by their discharges, are liable to contract the disease. By far the greater number of cases, however, result from exposure in infected localities, and from drinking infected water. Outside of the area in India where cholera prevails as an endemic disease, localities become infected and the water supply contaminated as a result of the introduction of infectious material from previously infected localities, either in fomites, or through the medium of the discharges of the sick. These facts furnish the indications for individual, as well as for general, measures of prophylaxis. In the sick room the precautions to be taken are to keep the room clean and well ventilated, to disinfect the discharges of the sick, and all soiled articles as promptly as possible, and to wash the hands in a disinfecting solution when they have been in contact with the patient or with soiled clothing. Attendants should not take their food in the room occupied by the sick, and should not drink liquids which have been exposed in the sick-room.

The general directions relating to diet, drinking water, etc., which we shall shortly give, apply to the attendants upon the sick, as well as to those at a distance from them; and, it should be remembered, in the interest of the sick, that these attendants do not run any special risks beyond those to which all persons within the area of infection are exposed. Indeed, we may go further, and say that they run far less risk when they are in a well-regulated hospital and under intelligent supervision, than do those persons who dwell in the localities outside of the hospital from which the cases under their charge have come. Attendants upon the sick should have their meals at regular hours, should not be deprived of a fair allowance of sleep, and should never be allowed to become exhausted by protracted vigils or excessive fatigue. When cholera has been introduced into a country and is extending its limits from day to day, one of the first questions which will present itself to those who are able to change their place of residence will be, whether they shall attempt to keep out of its way, and if so, where is it best to go. The answer to this question must depend very much upon circumstances. Those who are unfortunate enough to live in a city, or town, which has a bad sanitary record, which is not provided with an efficient health department, or does not provide money to enable the officers appointed to do efficient work, had better decamp in good time, so as to evade the foe entirely, or to meet it upon a field more favorable for defensive operations. There should be no stampede and no running away in haste, without any definite idea of why and where. The time to go is before the disease has obtained a lodgment. Consider that if the season is not far advanced and the town is in an unfavorable sanitary condition, there is every reason to anticipate that the cases will be followed by a severe epidemic, and decide at the outside whether you will put your castle in order to stand a siege, trusting to well-considered measures of individual prophylaxis, or whether you will beat a masterly retreat in advance of the first assaults of the enemy.

Those who vacillate in the hope one day that the epidemic is on the decline, and in the fear the next that it will sweep everything before it, in the end very often stay, when they could just as well have gone, and at the same time neglect those precautions which they should have taken at the outset if they had decided to stay. To those who are unable or unwilling to desert their homes, we would say that when proper precautions are taken the danger is really not very great, and that sanitarians look for the day when cholera will be practically banished from civilized countries. See that your premises are in good sanitary condition, and do what you can to induce your neighbors and the authorities in your town to prepare for the storm. Look especially after the plumbing of your houses, and if there is a cess-pool or a privy vault upon your premises, see that it is kept in good condition by the use of antiseptics and deodorants.[1] Above all be sure that no food comes into your house except such as is sound and good, and that the drinking-water used by your family is beyond suspicion. Well water is always open to suspicion, and in general, during the prevalence of cholera, it will be advisable to boil all water used for drinking purposes. This is a prophylatic measure of prime importance, and there is good reason to believe that if faithfully executed it would, to a great extent, limit the ravages of the Asiatic pestilence. Tea and coffee recently made can be taken with impunity. Milk, during the prevalence of an epidemic, should be boiled before it is used as food. Mineral waters, if bottled at places distant from the infected area, may be drunk in moderation. A moderate amount of sound wine, which was bottled prior to the epidemic, may be permitted to those who are in the habit of using it. Those who are not in the habit of using stimulants should not resort to their use during the progress of an epidemic. Those accustomed to them should restrict their libations within moderate limits, and will find a little brandy and soda, or Appolinaris water, to be better than wines, especially than the acid wines, which are apt to derange the digestion. Food should be plain and well cooked, and should be taken in moderate quantities. Intemperance in eating is quite as bad as intemperance in drinking. Soups, meats and vegetables should always be served hot, and should not be put aside for a future repast, or, if served a second time, should be brought to the temperature of boiling water shortly before they are eaten. Pastry and rich puddings, and all coarse and indigestible meats and vegetables are to be avoided. Sound ripe fruit, which has been brought to the house with the outer skin unbroken, may be eaten in moderation by those who know by experience that it agrees with them. It should be carefully washed before it is eaten. Melons, peaches, cucumbers, unripe apples or pears, acid fruits generally, and, in short, all those articles which are known to give rise to digestive derangements in the absence of cholera, would be better banished from the supply list during the prevalence of this disease.

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[1] See Part First of this essay for details relating to the use of these agents.

Next to the precautions relating to food and drink, we would place those relating to personal habits and clothing. The bowels should not be allowed to become constipated, and, on the other hand, any tendency to diarrhœa should at once receive attention. This is a matter of the greatest importance, and indeed is second to none other in individual prophylaxis. Absolute rest, a light diet, and a dose or two of chlorodyne, or of Hope's mixture, or of any approved combination of an opiate and an astringent, will usually suffice to control a slight diarrhœa, even if it is of a choleraic character. The clothing should be suited to the season, but great care must be taken that it is warm enough at all times to prevent the body from becoming chilled. A broad flannel belt worn about the abdomen is recommended by some physicians of experience, and may be useful.

Baths should be taken at frequent intervals, but should not be too prolonged or too cold, and should be followed by a vigorous rubbing of the surface, to establish reaction. Excessive exercise and fatiguing labor of all kinds are to be avoided. One should never feel "done up," as a result of his exertions in the way of business or of pleasure, for the lassitude resulting from over-exertion, like that which results from fear, predisposes to an attack. Mental depression is, so far as possible, to be avoided; grief, despondency and "carking care," are recognized as predisposing causes in cholera and in other infectious diseases.

The use of "sulphuric acid lemonade"—that is of pure water acidulated with this acid and sweetened to taste—has been recommended as a prophylactic, and there is some evidence in favor of its usefulness. We would not advise its indiscriminate use, or that of any other prophylactic of this nature. When cholera has made its appearance in a dwelling or in a public institution, the inmates may be given this, to the exclusion of all other drinks.

YELLOW FEVER.

This disease, like cholera, is contracted in infected localities, rather than by contact with the sick. Indeed it is rarely, if ever, communicated directly by a sick person to his attendants. In infected places the poison seems to be given off from the soil, or from collections of decomposing organic matter, and we have no definite evidence that it is communicated through the medium of food or drinking water. The history of epidemics of this disease shows that when it obtains a lodgment in a city or town which is in insanitary condition, in southern latitudes, and during the summer months it extends its area and invades new localities similarly situated until frost occurs, or, at least, until the weather becomes comparatively cool in the autumn. Those who remain in an infected area, unless protected by a previous attack, are almost certain to contract the disease, and much less can be done in the way of individual prophylaxis than in cholera. We, therefore, advise all those who can get out of the way of this fatal disease to do so. As a rule there will be plenty of time, after there is evidence that the disease has established itself in certain parts of a city, for those who live at a little distance from these centers of infections to get away, in a deliberate and well-considered manner. The occurrence of one or more imported cases can not be taken as evidence that an epidemic will follow, and is no reason for deserting one's home. If proper precautions are taken by the sanitary authorities, it is very probable that no evil result will follow such importation of the disease. But when these imported cases are followed by the occurrence of other cases in the vicinity where they have been sick, or when such local cases occur in the vicinity of the wharves, where vessels from infected ports discharge their cargoes, or in sailors' boarding houses, etc., it must be taken as evidence that the disease has effected a lodgment, and that infected centers have been established, from which an epidemic will in all probability be developed, if the season is favorable and the city in an insanitary condition. An epidemic is not developed so rapidly as in the case of cholera, but the disease usually extends its limits in a very deliberate way, and while it is claiming its victims in one section of a city, other sections in the immediate vicinity may be quite healthy. But the territory invaded remains infected until cold weather puts an end to the epidemic. Frequently it happens that no new cases occur in an infected area for several weeks or even months, for the simple reason that all those who remained to do battle with the pestilence have suffered an attack or are protected by a previous attack. The epidemic has ceased for want of material, but the infection remains, and will manifest itself if unprotected persons venture within the infected area from a mistaken idea that there is no more danger because there are no longer any cases.

In this disease, then, the most important points in individual prophylaxis is to keep away from infected localities, and from those places where the disease is epidemic (*e. g.*, Havana, Vera Cruz, Rio Janeiro) during the season of its prevalence. Very many lives have been sacrificed by a misplaced confidence in the protection which courage is supposed to afford against this disease. "I'm not afraid," says the merchant, whose business calls him to an infected city, or the sea-captain who wishes to obtain a cargo of sugar in Havana during the summer months. But not being afraid does not prevent such persons from being attacked, and the mortality at Havana among sailors from northern latitudes is very great. There is a tendency in places where the disease is endemic to underrate its malignity, and to ascribe every fatal case to some fault on the part of the unfortunate victim or his attendants. He was "frightened to death," or "was not properly nursed," or he was "imprudent," etc., etc.

The mortality is no doubt largely influenced by these secondary causes, but yellow fever is a malignant disease which, under the most favorable circumstances, is very fatal to unacclimated strangers within the limits of its endemic prevalence, and which, in its epidemic extension in new territory, claims from 30 to 50 per cent., or even more of those who fall sick, as its victims. This being the case, we repeat our advice to all those whose duty does not require them to stay on the field of battle, to make an orderly retreat to some place of safety.

The precautions relating to food and personal habits do not differ materially from those recommended in the case of cholera. The diet should be simple, and excesses should be avoided. Less care will be necessary with reference to the use of fruits and vegetables; indeed, they are rather to be recommended as better suited than animal food to the warm latitudes in which this disease prevails.

Constipation should, above all things, be avoided; and if there is evidence that the functions of the liver or kidneys are imperfectly performed, suitable medication should be resorted to. There is no special danger from the use of water, if it is from a source which insures it from contamination with organic impurities. Spirituous liquors, if used at all, should be taken in great moderation. Nothing is more likely to develop an attack than alcoholic excesses, and the habitual drunkard is almost doomed to death if he falls sick with this disease. Exposure to the direct rays of the sun, excessive fatigue and venereal excesses are all predisposing causes which it is within the province of individual prophylaxis to avoid. Exposure to the night air, and especially sleeping out of doors near the ground, is recognized by experienced physicians in yellow fever regions as an invitation to an attack. Great care should be taken to avoid chilling of the body, and it is well to sleep as far from the ground as possible. The creoles of Louisiana, and of the West Indies generally' insist upon closing the windows of a sleeping-room at night. The mortality among natives of tropical climates, and especially among those whose habits are good, and who are accustomed to a frugal mode of life, is very much less than among the natives of northern latitudes, when these come, without any previous "acclimation," within the influence of the yellow fever poison. Those who are habituated to life in the extreme south, enjoy a certain immunity from the effects of the poison, which is shown by a lower death rate rather than by any exemption from being attacked. One attack of this disease, as a rule, confers immunity from a subsequent attack. Individual prophylaxis in an infected city will include the avoidance of those localities which give special evidence of being infected, and especial care not to visit such localities at night. The liberal use of disinfectants in cesspools and water-closets, and a perfect state of sanitary police in and around the premises, will constitute a most important part of the precautionary measures which every individual should take for his own protection and that of his family. A state of mental equilibrium, and an intelligent appreciation of the special circumstances in which he is placed, and of the various measures of prophylaxis heretofore indicated, will enable an individual to look the facts fairly in the face, and to be governed by the light of reason and of science. Unfortunately it too often happens among the ignorant and degraded, that a spirit of bravado, attended with a neglect of the simplest sanitary precautions, and a disposition to deny the presence of the dreaded foe, prevails during the earlier stages of an epidemic, and this is followed by a disorderly stampede and a disgraceful neglect of the sick, when the presence and malignant nature of the pestilence are recognized.

SMALL-POX.

This disease is contracted by exposure to emanations from the body of the sick, or from articles which have been in use by them or exposed in their vicinity. There is no evidence that the small-pox poison multiplies external to the human body, and the indications for prophylaxis are, therefore quite different from those already given for cholera and yellow fever. One may eat what he pleases and wallow in filth when small-pox is prevailing, without contracting the disease, so long as he keeps away from the sick and is not brought in contact with any articles infected by them. In this disease, however, as in the infectious diseases generally, previous personal habits will greatly influence the result, when exposure does occur, and the disease is more fatal to the victims of alcoholism than to those who are poorly nourished, and in general, to those whose vitality is reduced by exposure to noxious effluvia from putrefying material, by living in overcrowded and ill-ventilated apartments, etc. As it is now the universal practice to isolate, small-pox patients as soon as the disease is recognized, the danger of coming accidentally in contact with them is not great. There is little danger of infection from passing within a few yards of a patient with small-pox in the open air, or from passing a building in which cases are under treatment. Unprotected persons who enter the sick room are, however, extremely liable to contract the disease, and the infectious material given off from the patient's body clings most tenaciously to surfaces, to clothing, etc., and may give rise to an attack after months, unless destroyed by disinfection. It is evident that individual prophylaxis will include the avoidance of places which have been occupied by the sick, and of articles used by them unless there is a certainty that they have been thoroughly disinfected. It is probable that an unprotected person, who feels obliged, for special reasons, to enter the sick room, may escape infection by the use of an air filter placed over the mouth and nostrils. This should be constructed on the principle of the "Tyndal Respirator," in which all inspired air is made to pass through a layer of cotton wadding, which arrests suspended articles. It would be necessary immediately on coming out of the room to burn the cotton filter, to bathe the hands and face in a disinfecting solution, and to change the outer clothing.

It is a general rule in regard to infectious diseases that those who are necessarily exposed to them should take the precaution of not going into the sick room with an "empty stomach," or in a condition of exhaustion from any cause. A cup of coffee or a glass of wine and a cracker may be taken if a considerable interval has elapsed since the last regular meal.

It is well known that against small-pox we have a special measure of prophylaxis, which has restricted the ravages of this disease within the limits which are left to it by carelessness in regard to the application of this measure or ignorance of its value. Since the famous discovery by Jenner, vaccination has become the prophylactic *par excellence.* The immunity conferred by vaccination is, as a rule, complete, but there are exceptions to this rule, and vaccinated persons occasionally suffer from a modified form of this disease. The statistics of the London small-pox hospital show that the mortality among unvaccinated persons received into that hospital with small-pox is 35.55 per cent., while the mortality among vaccinated persons is less than 7 per cent. No doubt a large portion of the cases of post-vaccinal small-pox might have been prevented by re-vaccination. It is now recognized that the protective influence of vaccination is not always of a permanent character, and children who have been successfully vaccinated in infancy should be re-vaccinated when they reach the age of puberty, or sooner, if small-pox is prevailing in the neighborhood. The operation is so trifling that it is customary to vaccinate old and young, with the exception of those who have been successfully vaccinated within a year or two, whenever an outbreak of small-pox occurs. This practice is to be recommended, but when the operation has been performed in a proper manner, with virus which is known to be reliable, it is folly to insist upon a frequent repetition of the vaccination because "it did not take." If the first vaccination has been completely successful, a perfect result from revaccination is not usually obtained; and the fact that no result is obtained must be taken as evidence that the person is protected. The prophylatic value of vaccination practiced after exposure to small-pox has been demonstrated, and one who is not entirely certain that he is protected by a recent successful vaccination will do well to resort to this important prophylatic measure at once, if he has reason to suspect that he has been exposed to small-pox.

SCARLET FEVER.

In this disease, as in small-pox, the poison is given off from the bodies of the sick, and is not reproduced independently of them. As we have no knowledge of any means of protection corresponding with vaccination, prophylaxis consists solely in keeping out of the reach of infection by the sick, or by articles infected by them. The sick person may communicate the disease during the whole period of his illness and convalescence—a period which often extends to five or six weeks, or even longer than this. Infected clothing which has been packed away for months, may communicate the disease, and there are numerous instances on record of its transmission to children at a distance from the sick by healthy persons who have recently come in contact with scarlet fever patients. The lower animals, and especially cats and dogs, which have visited the sick room unnoticed, or which are thoughtlessly given to convalescent children for their amusement, constitute a great source of danger. Persons who have suffered an attack of the disease, or who have but little susceptibility to it, may have a slight sore throat as a result of exposure to the scarlet fever poison, and may communicate the disease in its more severe form to unprotected children. One great difficulty in arresting the progress of an epidemic by isolation of the sick and disinfection results from the fact that these slight and often unrecognized cases are frequently allowed full liberty. Infection has been traced to milk which has been standing in the sick room, or the same liquid which has become infected at a dairy where scarlet fever had prevailed, and where recent convalescents were permitted to milk the cows.

All these facts point to a most rigid exclusion of susceptible children from every possible source of infection. The susceptibility of adults is very much less, and, when attacked, they usually have the disease in a mild form. But their responsibility extends far beyond the point of avoiding the sick for their own protection. Those who are associated with susceptible children have no right, under any circumstances, to visit the room of a scarlet fever patient without taking the most thorough precautions with regard to the disinfection of their persons and clothing immediately upon leaving it; and even with these precautions, such a visit can not be justified when it is made simply out of curiosity or friendship. Only those who are in attendance upon the sick should be allowed in the sick room, and they must be regarded as infected persons, who are not to be permitted to come in contact with unprotected children while they are engaged in this duty.

DIPHTHERIA.

This is a disease in which the infectious material is given off from the surfaces effected, and probably not from the general surface of the body. As the usual seat of the disease is the throat and the nasal mucous membrane, it is the discharges from these surfaces which are especially dangerous. Although adults are much less susceptible to the disease than children, there has been numerous instances in which they have contracted diphtheria by the accidental reception of a bit of infectious material directly into the fauces. This is especially liable to occur during the operation of tracheotomy; and several physicians have lost their lives in that way, in their efforts to save those of their patients by aspirating through the tracheotomy tube. It seems extremely probable that the diphtheretic poison germ is capable of increase independently of the sick, in damp, foul places, such as sewers, damp cellars, and especially under old houses in which the floors come near the surface of the ground, leaving a damp, ill-ventilated space. At all events the disease often clings to such houses in spite of the application of the usual means of disinfection. There is no doubt as to the influence of bad hygienic conditions in maintaining the infection when the disease has been introduced, and it is possible that such conditions may, in certain cases, originate it. Insufficient nourishment, the malarial poison, and insanitary surroundings are predisposing causes to the disease. Those suffering from scarler fever, measles, whooping cough, and tuberculosis are especially liable to be attacked, as in the case of scarlet fever mild cases, which in the absence of others more pronounced it would be difficult to recognize as due to the diphtheretic poison may give rise to malignant diphtheria in more susceptible individuals, or in those whose vital resisting power is reduced by any of the causes mentioned. Prophylaxis will demand complete non-intercourse with the sick, avoidance of infected localities, and care to exclude all persons and articles coming from such houses from contact with yourself or children. The disease is often spread by thoughtless persons who visit the sick-room, and even kiss the infected patients, and then, without any precautions in the way of disinfection, fondle healthy children in other places, and, perhaps, transmit by a kiss the infectious material which has adhered to their lips. The possibility of transmission by pet animals is also to be borne in mind.

TUBERCULOSIS.

Recent researches have demonstrated that tubercular consumption, is an infectious disease, and that the sputa of those effected with it, injected into susceptible animals, reproduces in them the same disease. This sputum is, therefore, infectious material, and should be destroyed by burning, or by the use of chemical disinfectants. There would be little danger of infection from the moist masses of sputum, but in a desiccated condition this material is liable to reach the lungs of susceptible individuals, and to induce the disease. It is well known that there is a great difference in susceptibility to pulmonary consumption, and that in certain families this disease carries off one member after another, while it is unknown in other families. Those who have this hereditary predisposition should pay special attention to individual prophylaxis. They should avoid intimate association with consumptive persons, should live under the best hygienic conditions, in dry, well-ventilated apartments, and should select an occupation which will keep them in the open air, rather than one which keeps them confined in the house. Above all, they should avoid respiration of an atmosphere loaded with organic impurities, or with irritating inorganic particles—dust of various kinds. Out-of-door life on the high and dry plains in the center of the continent, or in the mountains, will, in most instances, enable them to overcome the predisposition, if commenced before infection and the resulting tubercular lesions have occurred!

Those who are engaged in occupations which require them to pass some hours each day in an atmosphere loaded with dust will do well to wear a respirator for filtering the suspended particles from the air; for it is demonstrated that, independently of hereditary predisposition, the respiration of such an atmosphere predisposes to tubercular disease of the lungs.

TYPHOID FEVER.

In this disease, as in cholera, the infectious agent is contained in the alvine discharges of the sick. In the interest of self-preservation, as well as in that of the public good, every individual who has charge of cases should see that the evacuations from the bowels are thoroughly disinfected before they are thrown out.

The drinking of water contaminated with such infectious discharges is recognized as a very frequent mode of infection; and individual prophylaxis demands an intelligent consideration of the source from which a supply of drinking water is obtained for personal or family use. If there is the least reason to suspect that this supply may be contaminated by typhoid material, or if it contains an undue amount of organic impurities, it should be rejected entirely, or boiled shortly before it is used.

Typhoid epidemics have in several instances been traced to using milk which had been contaminated by infected water, added to it directly, or used at the dairy to wash the vessels containing it. The remedy in this case is to verify the purity of the source of supply of all milk used for drinking, or to boil it immediately before it is used. The water of wells located within the limits of a city or village should not, as a rule, be used for drinking purposes, for the soil is almost certain to be polluted; and it often occurs that the contents of privy vaults and cess-pools pass into the same porous stratum of sand or gravel from which the well-water is obtained, or that surface drainage finds its way into shallow wells. It will be necessary, also, to regard with suspicion the water of small streams and ponds which are so situated that they may receive the drainage from the collections of filth upon their margin. Next to impure water we must place impure air as a factor in the etiology of typhoid fever. There is good reason to believe that the germs of the disease may be carried by the foul gases which are given off from sewers, privies, etc., when these become infected, and the disease may be induced by the respiration of such a contaminated atmosphere. At all events the breathing of a vitiated atmosphere, and insanitary surroundings generally, constitute predisposing causes which should be avoided.

In typhoid fever, as in yellow fever and cholera, depressing mental emotions, such as grief, despondency or fear, and physical exhaustion from excessive fatigue, insufficient food, etc., are predisposing causes which may induce an attack in the presence of the infectious agent.

CONCLUDING REMARKS.

This chapter might be greatly extended, but having passed in review the principal measures of individual prophylaxis against those infectious diseases which are most fatal, we shall not dwell upon precautions to be taken in other contagious diseases, such as measles and whooping cough. These precautions will not differ from those already recommended in the cases of small-pox and scarlet fever. So, too, in regard to the infectious skin diseases. These are communicated by personal contact, and rarely occur except among those who neglect personal cleanliness, as well as other sanitary laws. Soap and water will generally suffice for individual prophylaxis. By avoiding filthy persons as well as filthy places, the danger of contracting these and certain other unmentionable infectious diseases will be reduced to a minimum.

SUGGESTIONS FOR THE RESTRICTION AND PREVENTION

OF

Diphtheria, Scarlatina, Small-Pox and Typhoid Fever.

DIPHTHERIA, SCARLATINA and SMALL-POX are all INFECTIOUS as well as CONTAGIOUS diseases, hence the strict observance of the following precautions is of very great importance:

1. When a child or a young person has a sore throat, bad odor to its breath, and especially if it has fever, it should immediately be kept separated from all other persons, except necessary attendants, until it be ascertained whether or not it has *diphtheria* or *scarlet fever*.

2. *Every person* known to be sick with *diphtheria*, *scarlatina* or *small-pox* should be *promptly* and *effectually isolated* from the public; no more persons than are actually necessary should have charge of or visit the patient, and they should be restricted in their intercourse with other persons. *Every case of either of these diseases should immediately be reported to the Board of Health, as the law requires.*

3. Remember that VACCINATION and RE-VACCINATION, with fresh *bovine virus*, are SAFE and SURE PREVENTIONS of SMALL-POX.

4. The room into which one sick with *diphtheria*, *scarlet fever* or *small-pox* is placed should previously be cleared of all needless clothing, carpets, drapery, and other materials likely to harbor the poison of the disease. This room should constantly receive a liberal supply of fresh air, without currents or drafts upon the patient. It will be well also to have the sun shine directly into the room.

5. The discharges from the throat, nose and mouth are extremely liable to communicate these diseases, and should be received in vessels containing standard solutions Nos. 1, 2 or 3, or on soft rags or pieces of cloth, which should be immediately burned.

6. The discharges from the kidneys and bowels are also dangerous, and should be passed into vessels containing one of the standard solutions, and then buried at least 100 feet distant from any well; or when this is impracticable, they should be passed on old cloths, which should be immediately burned.

7. The clothing, towels, bed linen, etc., on removal from the patient, should at once, before removal from the room, be disinfected. See Standard Solution No. 4.

8. Nurses and attendants should be required to keep themselves and their patients as clean as possible; their own hands should frequently be washed and disinfected by chlorinated soda. See formula No. 3.

9. All persons recovering from these diseases should be considered dangerous; therefore such a person should *not* be permitted to *associate* with others, or to attend *school*, *church* or any *public assembly* until the throat and any sores which

may be on the lips, nose or body are healed, nor until, in the judgment of a careful and intelligent physician, he can do so without endangering others; nor until after all his clothing has been thoroughly disinfected, and this without regard to the time which has elapsed since recovery, if the time is less than one year. In case of *small-pox* all infected clothing or bedding should be burned. Nor should a person from premises in which there is or has been a case of either of these diseases attend any school, Sunday-school, church or public assembly, or be permitted to do so, until after disinfection of such premises and of the clothing worn by such person if it shall have been exposed to the contagion of the disease.

10. The body of a person who has died of *diphtheria* or *scarlet fever* should be saturated with Standard Solution No. 2, wrapped in a sheet, and at once be buried. In no case should the body be exposed to view. In case of death from small-pox, the body should, unclothed and unwashed, be wrapped in a heavy sheet, saturated with the solution, and immediately buried.

11. No public funeral should be held at a house in which there is a case of, or in which a death from one of these diseases has recently occurred.

12. Avoid in every possible manner the special contagion of these diseases. This is especially important with children, who are always more susceptible to disease than adults. Mild cases in adults, however, communicate fatal cases to children.

13. *Do not let a child go near* a case of diphtheria, scarlatina or small-pox. Do not permit any person or thing, or a dog, cat or other animal to come direct from a case of these diseases to a child. Unless your services are needed, keep away from them yourself. If you do visit a case, bathe yourself and change and disinfect your clothing before you go where there is a child, or into a public assembly.

14. The contagion of these diseases retains its virulence for some time, and can be carried a long distance in various substances and articles in which it may have found lodgment. While it is not definitely proved that the germs of these maladies are propagated in any substance outside the living human or animal body, it is possible that they may be found to be thus propagated. Therefore, and because the breathing of air laden with the emanations from decaying fruit, vegetables or meat, or from sewers, cesspools, sinks and other receptacles of filth, is believed to endanger health, great care should be taken to have the house, premises and everything connected with dwellings kept clean and dry; to have sewer connections well trapped and house drains constantly well ventilated, and to have all carriers of filth well disinfected. Do not permit a child to enter privy, water-closet, or breathe the air from a privy, water-closet, cesspool or sewer into which discharges from persons sick with these diseases have entered, nor to drink water or milk which has been exposed to such air.

15. Do not permit a child to ride in a hack or other closed carriage in which has been a person sick with diphtheria, scarlatina or small-pox, except the carriage has since been thoroughly disinfected.

16. All influences which cause sore throats or any impairment of health probably tend to promote the taking and spreading of these diseases. Among the conditions external to the body liable to cause the spread of them, perhaps the most common are: infected air, infected water, and *contact with infected substances or persons*. Because of this, and as a means of lessening the danger of contracting other diseases, the following precautions should always be taken, but more particularly during the prevalence of any such disease.

17. Do not wear or handle clothing worn by a person during sickness or convalescence from an attack of either the diseases.

18. Beware of any person who has a sore throat. Do not kiss, or inhale the breath of such a person. Do not drink from the same cup, blow the same whistle, or put his pencil or pen in your mouth.

19. Beware of crowded assemblies in unventilated rooms.

20. Do not drink water which has a bad taste or odor, or which comes from a source that renders it liable to be impure, especially if there is reason to believe it may contain something derived from a person sick with *diphtheria or scarlet fever*. *Especially* be careful about the cleanliness and purity of the *milk supplied* by your *dairyman*. Numerous epidemics of *scarlet fever* and *diphtheria* have originated with careless dairymen.

TYPHOID FEVER.

I.—ITS SANITARY FEATURES.

21. Typhoid fever is a zymotic disease, infectious and insidious in its nature, with a specific poison contained in the intestinal discharges of those affected, and by air and water may be introduced into the system of susceptible healthy individuals, where it will produce the same disease.

22. If the poison obtains access to a water supply, or to articles of food or drink, an outbreak of typhoid will follow among those partaking of such water or food. Repeated instances of this kind have been traced to the use of water from an infected well and to infected milk.

23. The diarrheal discharges, when dry, may preserve the poison as effectually as the crusts of small-pox, the scales of scarlet fever, and the dried membrane of diphtheria, preserve the specific poisons of those diseases.

24. These discharges, coming into contact with putrid animal matter, as by being thrown into water-closets and privies, are capable of saturating such matter with the typhoid fever poison in its most concentrated and virulent form.

II—PREVENTION OF ITS SPREAD.

25. When a case of typhoid fever is known to exist in a neighborhood, a strict examination should be made regarding the surroundings and character of the water supply of the locality. If there be any reason to suspect that this may be possibly contaminated from the case, its use should be forbidden until the proper measures can be taken to protect it against such contamination, and the question of its safety be definitely settled. The location of wells, with reference to the privy into which typhoid discharges are thrown, the inclination of the ground between such points, and the character of the soil, should all be taken into consideration. Wells into which surface-washings from the infected premises might find their way by the natural slope of the ground, and wells within a given distance (one hundred feet) should be at once abandoned.

26. Scrupulous cleanliness in every portion of the premises should be enforced. All decaying animal and vegetable matter, and every kind and source of filth in and around the house, should be removed and disinfectants be freely used. Surface drains and gutters, areas, out-houses, privies, etc., should receive close and constant attention, and Standard Solution No. 4 be used freely and regularly in every such place. (See General Directions.)

27. Within the infected house itself the important matter to attend to is the prompt disinfection of the discharges from the patient, and of everything liable to come in contact with such discharges.

DISINFECTION AND DISINFECTANTS.

"The object of *disinfection* is to prevent the extension of infectious diseases by destroying the specific infectious material which gives rise to them. This is accomplished by the use of *disinfectants*.

There can be no partial disinfection of such material; either its infecting power is destroyed or it is not. In the latter case there is a failure to disinfect. Nor can there be any disinfection in the absence of infectious material.

It has been proved for several kinds of infectious material that its specific infecting power is due to the presence of living micro organisms, known in a general way as "disease germs," and practical sanitation is now based upon the belief that the infecting agents in all kinds of infectious material are of this nature. Disinfection, therefore, consists essentially in the destruction of disease germs.

Popularly, the term disinfection is used in a much broader sense. Any chemical agent which destroys or makes bad odors, or which arrests putrefactive decomposition, is spoken of as a disinfectant. And in the absence of any infectious disease it is common to speak of disinfecting a foul cess pool, or a bad smelling stable, or a privy vault.

This popular use of the term has led to much misapprehension, and the agents which have been found to destroy bad odors—deodorizers—or to arrest putrefactive decompositions—antiseptics—have been confidently recommended and extensively used for the destruction of disease germs in the excreta of patients with cholera, typhoid fever, etc.

The injurious consequences which are likely to result from such misapprehensions and misuse of the word disinfectant will be appreciated when it is known that:

Recent researches have demonstrated that many of the agents which have been found useful as deodorizers, or as antiseptics, are entirely without value for the destruction of disease germs.

This is true, for example, as regards the sulphate of iron or copperas, a salt, which has been extensively used with the idea that it is a valuable disinfectant. As a matter of fact, sulphate of iron, in saturated solution, does not destroy the vitality of disease germs, or the infecting power of material contained in them. This salt is, nevertheless, a very valuable antiseptic, and its low price makes it one of the most available agents for the arrest of putrefactive decomposition in privy vaults, etc.

Antiseptic agents also exercise a restraining influence upon the development of disease germs, and their use during epidemics is to be recommended, when masses of organic material in the vicinity of human habitations can not be completely destroyed, *removed or disinfected.*

While an antiseptic agent is not necessarily a disinfectant, all disinfectants are antiseptics, for putrefactive decomposition is due to the development of "germs" of the same class as that to which disease germs belong, and the agents which destroy the latter also destroy the bacteria of putrefaction, when brought in contact with them in sufficient quantity, or restrain their development when present in smaller amounts.

A large number of the proprietary "disinfectants," so called, which are in the market are simply deodorizers or antiseptics of greater or less value, and are entirely untrustworthy for disinfecting purposes.

Antiseptics are to be used at all times when it is impracticable to remove filth from the vicinity of human habitations, but they are a poor substitute for cleanliness.

During the prevalence of epidemic diseases, such as yellow fever, typhoid fever and cholera, it is better to use in privy vaults, cess-pools, etc., those antiseptics which are also disinfectants, *i. e.*, germicides; and when the contents of such receptacles are known to be infected, this becomes imperative.

In the sick room we have disease germs at an advantage, for we know where to find them as well as how to kill them.

Having this knowledge, not to apply it would be criminal negligence, for our efforts to restrict the extension of infectious diseases must depend largely upon the proper use of disinfectants in the sick-room.

GENERAL DIRECTIONS.

Disinfection of Excreta, Etc—The infectious character of the dejections of patients suffering from cholera and from typhoid fever is well established, and this is true of mild cases and of the earliest stages of these diseases as well as of severe and fatal cases.

It is probable that epidemic dysentery, tuberculosis, and perhaps diphtheria, yellow fever, scarlet fever and typhus fever may also be transmitted by means of the alvine discharges of the sick. It is, therefore, of the first importance that these should be disinfected. In cholera, diphtheria, yellow fever and scarlet fever, all vomited material should also be looked upon as infectious. And in tuberculosis, diphtheria, scarlet fever, and infectious pneumonia, the sputa of the sick should be disinfected or destroyed by fire. It seems advisable, also, to treat the urine of patients sick with an infectious disease with one of the disinfecting solutions below recommended.

Chloride of Lime, or bleaching powder, is perhaps, entitled to the first place for disinfecting excreta, on account of the rapidity of its action.

The following standard solutions are recommended:

STANDARD SOLUTION NO. 1.

Dissolve chloride of lime of the best quality in soft water in the proportion of four ounces to the gallon.

Use one pint of this solution for the disinfection of each discharge in cholera, typhoid fever, etc. Mix well, and leave in vessel for at least ten minutes before throwing into privy vault or water-closet. The same directions apply for the disinfection of vomited matters. Infected sputum should be discharged directly into a cup half full of the solution.

STANDARD SOLUTION NO. 2.

Dissolve corrosive sublimate and permanganate of potash in soft water, in the proportion of two drachms of each salt to the gallon.

This is to be used for the same purposes and the same way as *Standard Solution No.* 1. It is equally effective, but it is necessary to leave it for a longer time in contact with the material to be disinfected—at least an hour. The only advantage which this solution has over the chloride of lime solution, consists in the fact that it is odorless, while the odor of chlorine in the sick room is considered by some persons objectionable. The cost is about the same. It must be remembered that this solution is highly poisonous. It is proper, also, to call attention to the fact that *it will injure lead pipes if passed through them in considerable quantities.*

STANDARD SOLUTION NO. 3.

To one part of Labarraque's Solution (liquor sodæ chlorinatæ), add five parts of soft water.

This solution is more expensive than the solution of chloride of lime, and has no special advantages for the purposes mentioned. It may, however, be used in the same manner as recommended for *Standard Solution No.* 1.

Disinfection of the Person.—The surface of the body of a sick person, or of his attendants, when soiled by infectious discharges, should be at once cleansed with a suitable disinfecting agent. For this purpose *Standard Solution No.* 3 may be used. In diseases like small-pox and scarlet fever, in which the infectious agent is given off from the entire surface of the body, occasional ablutions with Labarraque's Solution, diluted with twenty parts of water, will be more suitable than the stronger solution above recommended.

In all infectious diseases, the surface of the body of the dead should be thoroughly washed with one of the standard solutions above recommended, and then enveloped in a sheet saturated with the same.

Disinfection of Clothing.—Boiling for half an hour will destroy the vitality of all known disease germs, and there is no better way of disinfecting clothing or bedding, which can be washed, than to put it through the ordinary operations of the laundry. No delay should occur, however, between the time of removing soiled clothing from the person or bed of the sick and its immersion in boiling water, or in one of the following solutions, and no article should be permitted to leave the infected room until so treated.

STANDARD SOLUTION NO. 4.

Dissolve corrosive sublimate in water in the proportion of four ounces to the gallon, and add one drachm of permanyanate of potash to each gallon to give color to the solution.

One fluid ounce of this standard solution to the gallon of water will make a suitable solution for the disinfection of clothing. The articles to be disinfected must be thoroughly soaked with the disinfecting solution, and left in it for at least two hours, after which they may be wrung out and sent to the wash.

N. B. *Solutions of corrosive sublimate should not be placed in metal receptacles*, for the salt is decomposed and the mercury precipitated by contact with copper, lead, or tin. A wooden tub or earthern crock is a suitable receptacle for such solutions.

Clothing may also be disinfected by immersion for two hours in a solution made by diluting *Standard Solution No.* 1 with nine parts of water, one gallon in ten. This solution is preferable for general use, especially during the prevalence of epidemics on account of the possibility of accidents from the poisonous nature of *Standard Solution No.* 4. When diluted as directed, this solution may, however, be used without danger from poisoning through the medium of clothing immersed in it, or by absorption through the hands in washing. A poisonous dose could scarcely be swallowed by mistake, owing to the metallic taste of the solution, and the considerable quantity which would be required to produce a fatal effect, at least half a pint.

Clothing and bedding which can not be washed may be disinfected by exposure to dry heat in a properly constructed disinfecting chamber for three or four hours. A temperature of 230° Fahr. should be maintained during this time, and the clothing must be freely exposed, *i. e.*, not folded or arranged in piles or bundles, for the penetrating power of dry heat is very slight.

The temperature above-mentioned will not destroy the *spores* of bacilli, *e. g.*, of the anthrax bacillus, but is effective for the destruction of all disease germs which do not form spores, and there is good reason to believe that this list includes small-pox, cholera, yellow fever, diphtheria, erysipelas, puerperal fever, and scarlet fever(?). Moist heat is far more effective, and it is demonstrated that ten minutes' exposure to steam at a temperature of 230° Fahr. will destroy all known disease germs, including the most refractory spores.

In the absence of a suitable disinfecting chamber, it will be necessary to burn infected clothing and bedding, the value of which would be destroyed by immersion in boiling water, or in one of the disinfecting solutions recommended.

Disinfection of the Sick-Room.—In the sick-room no disinfectant can take the place of free ventilation and cleanliness. It is an axiom in sanitary science that it is *impracticable to disinfect an occupied apartment*, for the reason that disease germs are not destroyed by the presence in the atmosphere of any known disinfectant in respirable quantity. Bad odors may be neutralized, but this does not constitute disinfection in the sense in which the term is here used. These bad odors are, for the most part, an indication of want of cleanliness, or of proper ventilation; and it is better to turn contaminated air out of the window or up the chimney than to attempt to purify it by the use of volatile chemical agents, such as carbolic acid, chlorine, etc., which are all more or less offensive to the sick, and are useless so far as disinfection—properly so called—is concerned.

When an apartment which has been occupied by a person sick with an infectious disease is vacated it should be disinfected. But it is hardly worth while to attempt to disinfect the atmosphere of such an apartment, for this will escape through an open window and be replaced with fresh air from without while preparations are being made to disinfect it. Moreover, experience shows that the infecting power of such an atmosphere is quickly lost by dilution, or by the destruction of floating disease germs through contact with oxygen, and that even small-pox and scarlet fever are not transmitted to any great distance through the atmosphere, while cholera, typhoid fever and yellow fever are rarely, if ever, contracted by contact with the sick, or by respiring the atmosphere of the apartments occupied by them.

The object of disinfection in the sick room is, mainly, the destruction of infectious material attached to surfaces, or deposited as dust upon window ledges, in crevices, etc. If the room has been properly cleansed and ventilated while still occupied by the sick person, and especially if it was stripped of carpets and unnecessary furniture at the outset of his attack, the difficulties of disinfection will be greatly reduced.

All surfaces should be thoroughly washed with a solution of corrosive sublimate of the strength of one part in 1,000 parts of water, which may be conveniently made by adding four ounces of *Standard Solution No.* 4 to the gallon, or one pint to four gallons of water. The walls and ceiling, if plastered, should be brushed over with this solution, after which they should be whitewashed with a lime wash. Especial care must be taken to wash away all dust from window ledges and other places where it may have settled, and to thoroughly cleanse crevices and out of the way places. After this application of the disinfecting solution, and an interval of twenty-four hours or longer for free ventilation, the floors and woodwork should be well scrubbed with soap and hot water, and this should be followed by a second more prolonged exposure to fresh air, admitted through open doors and windows.

Many sanitary authorities consider it necessary to insist upon fumigation with sulphurous acid gas—produced by combustion of sulphur—for the disinfection of the sick room. As an additional precaution this is to be recommended, especially for rooms which have been occupied by patients with small-pox, scarlet fever, diphtheria, typhus fever and yellow fever. It should precede the washing of surfaces and free ventilation above recommended. But fumigation with sulphurous acid gas alone, as commonly practiced, can not be relied upon for the disinfection of the sick-room and its contents, including bedding, furniture, infected clothing, etc., as is popularly believed. And a misplaced confidence in this mode of disinfection is likely to lead to a neglect of the more important measures which have been recommended. In the absence of moisture the disinfecting power of sulphurous acid gas is very limited, and under no circumstances can it be relied upon for the destruction of spores. But exposure to this agent in sufficient quantity, and for a considerable time, especially in the presence of moisture, is destructive of disease germs in the absence of spores. It is essential, however, that the germs to be destroyed shall be very freely exposed to the disinfecting agent, which has but slight penetrating power.

To secure any results of value it will be necessary to close the apartment to be disinfected as completely as possible by stopping all apertures through which the gas might escape, and to burn not less than three pounds of sulphur for each thousand cubic feet of air space in the room. To secure complete combustion of the sulphur it should be placed in powder, or in small fragments, in a shallow iron pan, which should be set upon a couple of bricks in a tub partly filled with water, to guard against fire. The sulphur should be thoroughly moistened with alcohol before igniting it.

Disinfection of Privy Vaults, Cesspools, etc.—When the excreta—not previously disinfected—of patients with cholera or typhoid fever have been thrown into a privy vault, this is infected, and disinfection should be resorted to as soon as the fact is discovered, or whenever there is reasonable suspicion that such is the case. It will be advisable to take the same precautions with reference to privy vaults into which the excreta of yellow fever patients have been thrown, although we do not definitely know that this is infectious material. Disinfection may be accomplished either with corrosive sublimate or with chloride of lime. The amount used must be proportioned to the amount of material to be disinfected.

Use one pound of corrosive sublimate for every five hundred pounds (estimated) of fecal matter contained in the vault, or one pound of chloride of lime to every thirty pounds.

Standard Solution No. 4, diluted with three parts of water, may be used. It should be applied—the diluted solution—in the proportion of one gallon to every four gallons (estimated) of the contents of the vault.

If chloride of lime is to be used, one gallon of Standard Solution No. 1 will be required for every gallon (estimated) of the material to be disinfected.

All exposed portions of the vault, and the wood work above it, should be thoroughly washed down with the disinfecting solution.

To keep a privy vault disinfected during the progress of an epidemic, sprinkle chloride of lime freely over the surface of its contents daily. Or, if the odor of chloride is objectionable, apply daily four or five gallons of Standard solution No. 2, which should be made up by the barrel and kept in a convenient location for this purpose.

Disinfection of Ingesta.—It is well established that cholera and typhoid fever are very frequently, and perhaps usually, transmitted through the medium of infected water or articles of food, and especially milk. Fortunately we have a simple means at hand for disinfecting such infected fluids. This consists in the application of heat. The *boiling temperature maintained for half an hour kills all known disease germs.* So far as the germs of cholera, yellow fever and diphtheria are concerned, there is reason to believe that a temperature considerably below the boiling point of water will destroy them. But in order to keep on the safe side it is best not to trust anything short of the boiling point (212° F.) when the object is to disinfect food or drink which is open to the suspicion of containing the germs of any infectious disease. During the prevalence of an epidemic of cholera it is well to boil all water for drinking purposes. After boiling the water may be filtered, if necessary, to remove sediment, and then cooled with pure ice if desired.

A sheet of filtering paper, such as druggists use, and a glass or tin funnel, furnishes the best means for filtering water on a small scale for drinking purposes. A fresh sheet of paper is to be used each day.

TO REMOVE BAD ODOR FROM RAIN WATER.

Permanganate of potash	1 drachm.
Rain water	1 gallon.

Misce.

Sig.—Stir some of this solution in the offensive smelling water.

All cases of contagious or infectious disease should at once be put under the care of an intelligent, competent physician, and *immediately* reported to the Secretary of the Board of Health within whose jurisdiction the patient is situated.

By order of the State Board of Health.

C. N. METCALF, M. D.,
Secretary and Executive Officer.

THE STATE OF INDIANA

IN THE SUPREME COURT, NOVEMBER TERM, 1886.

ON THE 25TH DAY OF JANUARY, 1887, BEING THE FIFTY-SIXTH JUDICIAL DAY OF SAID NOVEMBER TERM, 1886.

IN THE CASE OF ALBERT EASTMAN
v.
THE STATE OF INDIANA.
} Appeal from Steuben Circuit Court.

Came the parties by their attorneys, and the Court, being sufficiently advised in the premises, gave the following opinion and judgment, pronounced by Elliott, C. J.

The appellant challenges the validity of the act regulating the practice of medicine and surgery, and on this challenge arises the principal question in the case.

The police power of a State is very broad and comprehensive. It has been variously defined by the courts and text writers. "It is," said one of the courts, "that inherent and plenary power in the State which enables it to prohibit all things hurtful to the comfort and welfare of society." *Lakeview* v. *Rose Hill Cemetery*, 70 Ill. 92. "All laws," says another court, "for the protection of lives, limbs, health and quiet of the person, and for the security of all property within the State, fall within this general power of government." *State* v *Noyes*, 47 Me. 189.

In *Thorpe* v. *Rutland*, etc., 27 Vt. 149, it was held that "under the general police power of the State, persons and property are subject to all kinds of restraints and burdens, in order to secure the general comfort, health and prosperity of the State, of the perfect right of the State to do which, no question ever was, or, upon acknowledged general principles, ever can be made so far as natural persons are concerned."

In speaking of this power, it was said by this Court in *Hockett* v. *State*, 105 Ind.; 25 S. C.; 55 Am. Rep. 201; that "it extends to the protection of lives, limbs, health, comfort and convenience, as well as the property, of all persons within the State. It authorizes the Legislature to prescribe the mode and manner in which every one may so use his own as not to injure another, and to whatever is necessary to promote the public welfare, not inconsistent with its organic law."

The views expressed in these cases are well supported by authority. *Western Union Tel. Co.* v. *Pendleton,* 95 Ind.; 12 S. C.; 48 Am. Rep. 692; Cooley's Const. Lim. 572; *Barker* v. *Connelly,* 113 U. S. 27; *Soon Hing* v. *Crowley,* Id. 703; *Live Stock Association* v. *Crescent City,* 1 Abbott Sup. Ct Rep. 38.8; Slaughter House Cases, 16 Wall. 36.

The practice of medicine and surgery is a vocation that very nearly concerns the comfort, health and life of every person in the land. Physicians and surgeons have committed to their care the most important interests, and it is an almost imperious necessity that only persons possessing skill and knowledge should be permitted to practice medicine and surgery. For centuries the law has required physicians to possess and exercise skill and learning, for it has mulcted in damages those who pretend to be physicians and surgeons, but have neither learning nor skill.

It is therefore no new principle of law that is asserted by our statute, but if it were it would not condemn the statute, for the statute is an exercise of police power inherent in the State. It is, no one can doubt, of high importance to the community that health, limb and life should not be left to the treatment of ignorant pretenders and charlatans.

It is within the power of the Legislature to enact such laws as will protect the people from ignorant pretenders, and secure them the services of reputable, skilled and learned men, although it is not within the power of the Legislature to discriminate in favor of any particular school of medicine.

When intelligent and educated men differ in their theories, the Legislature has no power to condemn the one or approve the other, but it may require learning and skill in the school of medicine which the physician professes to practice. *White* v. *Carroll,* 42 N. Y. 161.

The rule requiring physicians to possess learning and skill is a very ancient one. Bonham's Case, 8 Coke Rep. 107; *College of Physicians* v. *Lovett,* 1 La Rahm, 472. This rule of the common law has been incorporated in many of the State statutes, and these statutes have always been upheld. The statute of Minnesota is very similar to ours, and it was held to be valid in *State* v. *State Medical Association,* 32 Minn. 324, the Court saying: "In the profession of medicine, as in that of the law, so great is the necessity for special qualification, and so injurious the consequences that are likely to result from it, that the power of the Legislature to prescribe such reasonable conditions as are calculated to exclude from the profession those who are unfitted to discharge its duties can not be doubted."

Speaking of a statute like ours, another Court says: "We are of opinion that all of the provisions of the act under consideration, and independent of any constitutional warrant for its enactment, would be maintainable under the police powers of the State; that under this general power the Legislature is the proper judge as to what regulations are demanded in dealing with property and restraining the actions of individuals." *Logan* v. *State,* 5 Tex. Appeal, 306.

The subject was examined in all its important phases in *Ex parte* Finney, 19 Nev. 323, and the statute declared valid.

A like result was reached by the Court in *Hewett* v. *Carrier,* 16 Pick. 353.

A full discussion of the question will be found in *Fox* v. *Washington Territory,* 75 West. Court Rep. 339, where a similar result was reached. Judge Cooley strongly and unequivocally affirms the validity of statutes like ours. Cooley on Torts, 289-290. The question received a very careful consideration in *State* v. *Dent,* 25 W. Va. 1, and it was held that the statute was valid in every part.

For more than eighty years a similar statute has been in force in New York, and the courts of that State have uniformily regarded it as valid. *Sheldon* v. *Clark,*

1 Johns. 513; *Alcott* v. *Barber*, 1 Wend. 526; *Turneman* v. *Morrison*, 14 Johns. 369; *Thompson* v. *Stoots*, 15 Wend. 395; *Barley* v. *Bogg*, 4 Denn. 60; *Finch* v. *Gudley*, 25 Wend. 469. In very many other cases such statutes have been enforced. *Autle* v. *State*, 6 Tex. App. 202; *Musher* v. *Chase*, 29 Ohio St. 577; *West* v. *Clutter*, 37 Ohio. St. 347; *Bibber* v. *Simpson*, 59 Me. 181; *Thompson* v. *Hazen*, 25 Me. 104; *State* v. *Gregory*, 83 Mo. 123; S. C. 53; Am. Rep. 535.

The appellant is right in asserting that the departments of government are separate and distinct, and that a clerk of a county can not exercise judicial powers. *Smith* v. *Myers* (this term) and cases cited. But he is wrong in affirming that the act under examination confers upon the clerk judicial powers.

The power to accept or reject an application for license under the statute is not a judicial one, although it may involve some exercise of discretion. *Elmore* v. *Overton*, 104 Ind. 548; Cooley on Torts, 411. If an exercise of discretion constituted a clerk a judicial officer, then he would be such in every case in which he issued a writ, files a paper or approves a bond, for all these acts involve some exercise of discretionary power. The statute does not require the clerk to sit in judgment upon the sufficiency of the application for a license, for the affidavits prescribed and the diploma required constitute the evidence upon which the clerk must act. The diploma and affidavits compel him to grant the license, and it is therefore not possible to regard his duty as a judicial one. *Flonny* v. *City*, 17 Ind. 169; *Betts* v. *Denon*, 3 Conn. 107; *State ex rel.* v. *Doyle*, 40 Wis. 188.

Whether the statute is a wise one or not is purely a legislative question, and so is the question whether it is reasonable or unreasonable. This doctrine was thus expressed in *Hendricks* v. *State*, 101 Ind. 564. "Whether a statute is or is not a reasonable one, is a legislative and not a judicial question. Whether a statute does or does not unjustly deprive the citizen of natural rights is a question for the Legislature, and not the courts. There is no certain standard for determining what are or are not the natural rights of the citizen. The Legislature is just as capable of determining the question as the courts. Men's opinion as to what constitute natural rights greatly differ, and if courts should assume the function of revising the acts of the Legislature on the ground that they invaded natural rights, a conflict would arise, which could never end, for there is no standard by which the question could be finally determined." Judge Cooley says: "Nor can a court declare a statute unconstitutional and void solely on the ground of unjust and oppressive provisions or because it is supposed to violate the natural, social or political rights of the citizen, unless it can be shown that such injustice is prohibited or such rights guaranteed or protected by the constitution." Cooley Const. Lim. (5th ed.) 197. At another place this author says: "The judiciary can only arrest the execution of a statute when it conflicts with the constitution. It can not run a race of opinions upon points of right, reason and expediency with the law-making power." *Ibid.* 201.

The offense is charged in the language of the statute, and this is sufficient. *State* v. *Miller*, 98 Ind. 70, and cases cited; *Gratter* v. *State*, 105 Ind. 272; *Autle* v. *State*, 6 Texas App. 202.

In discussing the evidence counsel assert that as the terms of the statute are broad and sweeping, courts must create exceptions in order to give it a just and reasonable effect. There are perhaps extreme cases when exceptions may be created by the courts, but these cases are very rare, and the authority to create exceptions is one to be exercised with great delicacy. It can never be exercised where the words of the statute are free from ambiguity and its purpose plain. It is only where the necessity is imperious and when absurd and manifestly unjust consequences would otherwise result, that the courts can create exceptions. This is not such a case. It is the purpose of the statute to prevent persons who do not possess the necessary qualifications to practice medicine or surgery from inflicting injury upon the citizens by undertaking to treat diseases, wounds and injuries. It is the plain intention of the statute to keep out of the professions of medicine and surgery all who do not possess learning and skill sufficient to enable them to properly discharge the duties incumbent upon members of those honorable professions, and courts have no right to create an exception which will defeat that intention. It is immaterial whether the person who undertakes to treat diseases or wounds does it for hire or not, for unless he is qualified as the statute requires, he must not undertake the treatment of diseases or wounds at all. The courts can not divide professional persons into classes and assert that one class is within the law, and the other not, for the law applies to all who assume the responsible duty of treating the sick, wounded or injured citizens, as well as those who expect compensation for their services as those who do not. The great object of the law is to allow none but skilled and learned persons to attempt to exercise functions and duties which require knowledge and skill, and it is not material whether reward is paid or promised, or the services are rendered without compensation or the promise of it.

The State has an interest in the life and health of all its citizens, and the law under examination was framed, not to bestow favors upon a particular profession, but to discharge one of the highest duties of a State, that of protecting its citizens from injury and harm.

It has been for ages a ruling principle of jurisprudence, "that regard be had for the public welfare is the highest law," and that principle is here of controlling force, for few things, if indeed any, are more important than that the health, limbs and lives of the citizens should not be intrusted to the care of persons who lack the knowledge and skill requisite to enable them to render proper medical and surgical treatment to the citizens afflicted by disease, wounds or injuries.

Judgment affirmed.

NATIONAL CONFERENCE

OF

STATE BOARDS OF HEALTH.

WASHINGTON, D. C., September 7, 1887.

The fourth annual meeting of the Conference of State Boards of Health was held in the parlors of Willard's Hotel, Washington, D. C., September 7, 1887.

The Conference was called to order by the President, Dr. J. N. McCormack, at 9:30 A. M. The Secretary, Dr. Conn, of New Hampshire, being absent, Dr. Lindsley, of Connecticut, was elected Secretary *pro tempore*. The minutes of the last meeting having been published and sent to members, it was, on motion, voted to dispense with reading them.

At the invitation of the President, Dr. Peter H. Bryce, of the Province of Ontario, opened the discussion on the subject of Inter-State Notification of Infectious and Contagious Diseases. He said:

MR. CHAIRMAN—Although not presenting any formal report from the Committee on Inter-State Notification of Diseases, I desire, in the name of the Committee, to state that, succeeding the meeting of last year I drew up, as Chairman of said Committee, a form of notification, and forwarded it to all State Boards, suggesting its adoption either as made or in some modified form which would fulfil the purposes intended. I have much pleasure in reporting that nearly all the States having commercial relations with Canada supplied with much regularity throughout the year reports of cases of infectious diseases, especially outbreaks of small-pox.

It is somewhat unfortunate that New York State, with so extended and important a seaboard and so many avenues for the entrance of disease from without and for distribution therefrom, should not have fallen in with the resolution of the Conference. From newspaper reports and other sources, I am, and I presume the Conference is aware of there having been a considerable number of cases of small-pox in New York during the year, and further, that the Conference has had no knowledge of where they were located, of their origin or their relationships.

The advantages of a like form of notification and its general approval and adoption is apparent to every one, since we are enabled thus in some degree to connect cases when *nature*, *residence*, *nationality*, *where exposed*, etc., have been indicated in the form of notification. Indeed, except for information regarding number of outbreaks, and thereby supplying to other States some estimate of the prevalence of the disease, and for enabling the signatory States to investigate outbreaks along certain lines of communication, or to explain the outbreak of cases of otherwise mysterious origin, all will agree that with the present limited inter-state means for co-operative work, any notification will have but little practical value.

Regarding the question of notification of diseases other than small-pox, cholera and yellow fever, it is a matter for the Conference to consider whether any practical necessity exists therefor, and whether any satisfactory method for carrying it out can be elaborated.

I thank the Conference for its indulgence in listening to my remarks.

Dr. Baker said he had not employed a specially-prepared blank because of the greater expense and trouble, and a belief that his weekly bulletin, especially when a marked copy was sent, would be accepted as sufficient. If it was not satisfactory he would be glad to know it.

In reply to Dr. Rauch, he said that, in his opinion, the mortality statistics prove that small-pox is of small consequence compared with scarlet fever or diphtheria, and he suggested the question whether the same principle of notification should not apply to each of these diseases which involve greater danger.

Dr. Rauch objected that such notification often lost its value by the slowness of transmission. The facilities for rapid traveling sometimes required the most prompt information of danger to prevent the transmission of infection, and instanced the ease with which small-pox can be conveyed from one State to another.

Dr. Baker rejoined, saying that in his opinion small-pox was an unimportant disease as compared with scarlet fever and diphtheria. That, as a matter of fact, they were far more dangerous and fatal than small-pox, and therefore their restriction was deserving of more attention.

Dr. Lindsley, of Tennessee, thought Dr. Baker's point was well taken. A case of small-pox in Maine was of no consequence to the people in Tennessee. He did not think it necessary to notify every State in the Union of each case of small-pox, but the matter was quite different in regard to yellow fever or cholera. He believed the occurrence of either of these diseases ought to be published widely.

After Dr. J. B. Lindsley had spoken, Dr. Baker urged the value to families about to travel or locate, of information relative to the presence of scarlet fever or diphtheria in places which it was intended to visit, saying, if the places where these diseases are present are published, the information is sometimes useful in preventing the taking of children directly into danger. He would be glad to be able to inform citizens of Michigan as to the presence or absence of these really dangerous diseases not only in places in Michigan, as is now done by means of a weekly bulletin, but also relative to important places in other States. On lines of travel where inter-communication is constant and rapid, telegraphic reports, he thought, might sometimes be useful, even between places as distant as New York and Michigan.

Dr. Rauch said, the idea of inter-state notification originated in the discussion of the means of preventing the spread of yellow fever. In regard to such notification concerning diphtheria and scarlet fever, he believed it to be impracticable.

Dr. E. M. Hunt, of New Jersey, believed the importance of inter-state notification depended largely upon the prevalence of a given disease. Any disease prevailing as a wide-spread and destructive epidemic deserved notification.

Dr. F. F. Gary, of South Carolina, spoke of the importance of notification as relative chiefly to yellow fever, cholera, etc. He did not regard it necessary in those diseases that are prevalent in some portion of the country all the year round, such as diphtheria, etc.

Dr. Benjamin Lee, Secretary of the State Board of Health, of Pennsylvania, considered that it would be a grave error to omit small-pox from the list of diseases for which inter-state notification is required. The ease with which it could be conveyed in personal effects, and its extreme malignity, made it in his eyes one of the most important to circumscribe and to be on the alert against its invasion. With reference to the solemn compact to notify all the other State Boards, he confessed that he had understood it to apply only to contiguous States or those in direct line of communication, and he had felt that he was doing his full duty under the agreement in notifying the Secretaries of the six States bordering on Pennsylvania, and the province of Montreal, which is in direct water communication with it. He had during the past year sent notice of the occurrence of twelve cases or outbreaks of the disease in question within the limits of his State, and had received similar information of seven in other States.

Dr. C. O. Probst, of Ohio, said that it was in some degree impossible for him to give very prompt notification of diseases occurring in his State, as he was mainly dependent upon information given by voluntary correspondents. A number of these had been secured who furnished weekly reports of prevailing diseases. Cases of small-pox occurring in places provided with health officers were promptly reported, and notice of these had been sent to other States by telegram or letter. A weekly health bulletin was issued, based on reports from correspondents, and this had been used in one or two instances as a means of inter-state notification. He understood that such notification was only to be made to contiguous States.

Dr. Fisher, of Rhode Island, said that there could be no question as to the value of inter-state notification, and especially from adjoining States, of the occurrence of small-pox, yellow fever and cholera. The facilities of travel and the demands of business were such, that the intercourse with cities and large towns in other States was almost as frequent as between adjoining villages in some of the country towns of the same State. During the past year he had received, with much satisfaction, such notification from adjoining States, and from more distant localities, and had in turn given similar notice of a case of small-pox in Rhode Island. He thought it very important that the origin of each case should be given, if possible of ascertainment, because sometimes the locality of origin was nearer at hand than the locality of the notified case or cases, and the place of origin needed quite as much, or perhaps more attention than the location of the known disease, inasmuch as the disease might still be lurking in a modified form, or in concealment in the place of origin.

Dr. Reeve, of Wisconsin, said: It seems to me that the extent and exact nature of the agreement supposed to have been entered into with reference to the inter-state notification of contagious diseases is not well understood, and that the practice of States under this resolution is so far from being either uniform or thorough as to be of little practical value at present.

My own understanding of the spirit and scope of this resolution was, that I should promptly notify the executive officers in each of the group of States that are contiguous to the one that I represent whenever any of the diseases specified in the agreement should appear in my own State, and my practice has been in accordance with this understanding. I have not understood that it was incumbent on me to notify the officers of distant States. I do not know that this is the general understanding, or in fact that there is a general understanding in regard to the matter. In some instances I have received notice from the executive officers of the Boards of Health of States adjacent to my own, and in other instances I have first learned of the existence of contagious disease in States near me only through the public press. On the other hand, I have received such notification from very distant States; Máine in particular has sent such notices to me, and while I am glad, of course, to know from official sources what diseases are prevalent or existent in such distant States, the information has in it but little that is likely to be of paactical value to us if similar reports do not come from intermediate States much nearer to us, and in very much closer connection with us by lines of public travel.

I think that we need a much clearer definition than we now have of what is expected of us, and what is obligatory upon us under the resolution under discussion.

Dr. J. Berrien Lindsley, of Tennessee, said: That as a practical matter the inter-state notification of infectious diseases as agreed upon at Toronto last year, was of prime importance. The fidelity with which this compact was carried out by the State Board of Health of Louisiana, had relieved the inter-states of the Mississippi Valley of the dread formerly prevailing that yellow fever would slip in unawares through New Orleans.

He agreed, however, with Dr. Baker, that the agreement needed modification. The Union and Dominion combined embrace over six million square miles, and about sixty-five millions of people. For so vast a region the compact should admit of some elasticity. A case of small-pox in Maine would not be of moment to Tennessee, but it would to Quebec; small-pox in New Orleans would concern Tennessee but not Maine or Ontario. Cholera at New Orleans or Quebec would concern the entire region embraced in the compact. It should be so modified as to accomplish the great good intended, and yet not be needlessly burdensome.

At the conclusion of the above remarks, Dr. Hunt, of New Jersey, offered the following resolution:

Resolved, That in the judgment of this Conference there should be notification of adjacent States or those in close travel communication in all cases of small-pox, cholera, yellow fever and typhus fever.

Resolved. That in case of diphtheria, scarlet fever and typhoid fever there should be notification of adjacent States when the outbreak is near the border of the adjacent State.

Resolved, That uniformity of blank is desirable.

The resolution was not put to vote, but was referred, together with the whole subject, to the Committee on Inter-State Notification.

On motion of Dr. Bryce, it was voted that the committee have power to add to their number, and that they report at the meeting on the following morning.

The following report of the Secretary, Dr. Conn, of New Hampshire, was then called for and read:

SECRETARY'S REPORT.

MR. PRESIDENT: Being unable to meet with the Conference this year, permit me to submit through you my reports as Secretary and Treasurer.

The Treasurer's report herewith enclosed shows the amounts paid in and disbursed; and is accompanied by a check for the small balance remaining in my hands, payable to your order.

From the list of payments it will be seen that of the twenty-one States represented at our last meeting at Toronto, fifteen Boards have remitted the amount of the assessment which was voted at that meeting, and as Indiana generously published our proceedings and allowed an opportunity for us to obtain reprints at a very low rate, it would seem but an act of justice to include her Board in the list of those having paid their dues.

Iowa, Maryland, Minnesota, New Jersey and New York, as well as all the Provincial Boards, failed to respond or send any report. While Alabama, North Carolina, Missouri and Kansas that were unrepresented at Toronto, were among the first to send in their assessment

Several States having nominal organizations to represent Health Boards responded, and expressed a desire to be included in this great National work, but on account of being destitute of funds, which is absolutely necessary to develop any sanitary work, they are obliged to remain outside the organization. In view of the fact that some of these Boards have representative sanitarians on their list of members, men whose names are honored by all friends of State Medicine, and who are struggling on in the firm hope of eventually securing recognition from the public to that extent necessary to cause them to demand the financial support adequate to sustain an active, working organization, I would suggest that our Committee on Organization and By-Laws take into consideration the situation of these Boards, and, if thought best, allow them an honorary position until such period as they may secure the funds necessary to become active workers.

Such a recognition of their gratuitous services to the people of their States might have its influence in creating that sentiment which in time will give them the means of more fully developing their organizations.

No report has been received from either the Dominion or Provincial Health authorities, although circulars and programmes have been sent to them the same as to the several States, nor has any reply been elicited whether any delegates would be appointed to attend the meeting in Washington. Rhode Island, Ohio, Michigan, Wisconsin, Iowa, Pennsylvania, Kentucky, Tennessee and North Carolina have appointed delegates. Other State Boards may have done the same, but if so, I have not been informed of the fact.

I have prepared a roll-call of the States for the use of the Conference, which I herewith append.

The programme may seem short and unimportant, yet it contains all that was submitted to your Secretary, and the circular asking for "questions or suggestions" was sent out early in the season.

It is with great sorrow—which I know you will all share with me—that I am obliged to report the death of one of our most esteemed co-workers at our meeting in Washington and Toronto, Dr. E. W. Germer, of Pennsylvania. No words of mine are needed to bring before your minds the noble man that he was, and the steadfast earnestness and honesty of purpose with which he was wont to state his position on sanitary matters.

He was a sanitary host in himself who never shirked any responsibility that came before him. He was outspoken, without being vindictive; fearless, yet not rash; determined, yet gentle in his demeanor; detesting all shams and pretences, he was genial and sociable in his nature, and we shall all miss his earnest zeal in the support of every sanitary measure which may promise to secure to mankind increased immunity from preventable disease.

Pennsylvania has lost a strong sanitary advocate, his adopted city a faithful local Health Officer, whose place they will find it hard to fill, while in his death the National Conference of Health Boards has lost a zealous co-worker, and a warm-hearted sympathizer in all our labors. Let us ever hold in grateful remembrance his many good qualities, and bear an affectionate testimony to his genius, his affability and great love for the principles of State Medicine.

No communications have been received regarding the unfinished business of last session, nor any suggestions in reference to the proposed permanent organization.

Regretting very much my inability to be with you in Washington, I sincerely thank you for the honor you have conferred upon me in being elected to the office of Secretary. All of which is respectfully submitted.

GRANVILLE P. CONN, M. D.,
Secretary.

CONCORD, September 3, 1887.

On motion the report was by vote accepted and ordered to be printed with the proceedings.

By direction of the President, the roll-call of the States was read by the Secretary *pro tem.* and responded to by the following delegates:

Alabama.
Arkansas.
California.
Colorado.
Connecticut, Dr. R. S. Goodwin, Dr. C. A. Lindsley.
Delaware.
Florida.
Georgia.
Illinois, Dr. J. H. Rauch, Dr. Wm. R. Mackenzie.
Indiana, Dr. Charles N. Metcalf.
Iowa.
Kansas, Dr. W. L. Schenck, Dr. D. Surber.
Kentucky, Dr. J. N. McCormack, Dr. J. O. McReynolds.
Louisiana.
Maine, Dr. A. G. Young.
Maryland.
Massachusetts.
Michigan, Dr. Henry B. Baker, Dr. A. Hazelwood.
Minnesota.
Mississippi.
Missouri.
New Hampshire.
New Jersey, Dr. E. M. Hunt.
New York.
North Carolina, Dr. J. W. Jones.
Ohio, Dr. C. O. Probst, Dr. H. J. Sharp.
Pennsylvania, Dr. Benj. Lee.
Rhode Island, Dr. C. H. Fisher.
South Carolina, Dr. F. F. Gary, Dr. J. R. Bratton.
Tennessee, Dr. J. Berrien Lindsley.
Texas.
Virginia.
Vermont, Dr. C. L. Allen.
West Virginia.
Wisconsin, Dr. J. T. Reeve.
District of Columbia.
Dominion of Canada.

Province of Ontario, Dr. Peter H. Bryce, Dr. F. Rae.
Province of Quebec.
Manitoba.
Dakota Territory, Dr. J. B. Van Velsor.

Dr. W. L. Schenck, of Kansas, announced the death of Dr. D. W. Stormont, of that State.

Dr. J. H. Rauch, of Illinois, moved and it was voted, that the President appoint a committee to draft suitable resolutions, relating to the decease of Dr. E. W. Germer and Dr. D. W. Stormont, and submit them to the meeting of the Conference on the following day.

The President named as such committee Drs. Rauch, of Illinois, Lindsley, of Tennessee, Schenck, of Kansas, and Lee, of Pennsylvania.

On motion of Dr. C. N. Metcalf, of Indiana, it was voted that the President be requested to send by telegraph, an expression of sympathy, on behalf of the Conference, to Dr. T. F. Wood, of North Carolina, he being confined at home with a dangerous illness.

On motion it was voted to adjourn until the next day at 9 A. M. at the same place.

ADJOURNED MEETING.—THURSDAY, SEPTEMBER 8.

Pursuant to adjournment the meeting of the Conference was called to order by the President at 9:10 A. M., in the parlors of the Willard House.

The minutes of the previous meeting were read and approved.

The first business taken up was the consideration of the following questions:

1. Does your State Board of Health receive from every part of its State prompt notification of the occurrence of diphtheria, scarlet fever, typhoid fever, and small-pox?
2. If such prompt notification is received, does your State send an expert to each locality where a case occurs?
3. Just what is done by your State Board on receiving a notice of diphtheria, scarlet fever, typhoid fever or small-pox?

The President announced that he would call for responses to the above questions, by States, calling them in alphabetical order.

On motion of Dr. Baker, of Michigan, it was voted that the delegates be restricted to eight minutes each, in their replies to the above interrogations.

Responses from the following States were made by their respective delegates as follows:

CONNECTICUT—Dr. C. A. Lindsley, Secretary of the State Board, said: In order to appreciate properly the answers which Connecticut is obliged to give to such questions, it is necessary to understand the relation of the State Board of Health to the people of her commonwealth and to the local Boards of the State. The State Board is only an advisory Board. It has no mandatory powers. As a Board of Health its functions lie chiefly in the line of investigations of the causes of disease, and especially of epidemics when they may prevail; in giving counsel and moral support to local Boards in their efforts to improve their sanitary condition, and in striving to awaken an interest in sanitary science and diffuse a knowledge of the principles of public hygiene among the people.

In addition to this, the State Board is charged with the superintendence of the registration and compilation of the vital statistics of the State.

This latter duty consumes not only a large part of the time of the Secretary of the Board, but also a greater part of the appropriation made by the State for its expenses.

In view of these facts, the reply to the first question must necessarily be in the negative.

The State Board does not receive prompt notification of the occurrence of the diseases mentioned from each locality. It will be readily understood that if the communication of such information is a voluntary matter, a prompt and general practice of giving it is not to be expected.

The answer to the second question is implied in that of the first. But I am ready to affirm that if notification of those diseases were made to the Board an expert would not be sent, certainly not to each locality where a case occurred. I desire to ask my friend, Dr. Baker, the Secretary of the State Board of Michigan, if, upon being notified of a case of typhoid fever in Detroit, he would think it necessary to send an expert there to take charge of it. In the towns of Connecticut, I should fear the resident physicians would resent such a proceeding as unwarrantable impertinence, and one not to be thought of except under very extraordinary circumstances. Besides this, even in the small State of Connecticut, without the prevalence of any severe epidemic, the cases of these diseases are numerous enough, all the time, to give active employment to a pretty large body of experts, if one was sent to each case.

It does not appear to me to be possible that any State Board can give an affirmative answer to that question.

To the third question, the Connecticut State Board can answer that while it does not receive prompt notification of all cases of these diseases, it does frequently receive through various channels information of any unusual prevalence of them.

That the State Board has published and keeps on hand a supply of circulars relating to the prevention and restriction of each of these diseases, and whenever informed of an outbreak in any locality, immediately sends to the informant, or to the local Health Board, an ample supply of such circulars for distribution.

And further; if anything is known which would seem to demand it, or if requested, the Secretary of the Board personally visits the locality, investigates the sanitary conditions, and offers the best advice he can.

ILLINOIS.—Dr. Rauch, Secretary of State Board, said his State answered in general in the negative. He seldom found it necessary to send an expert, but generally depended upon sending circulars to the places where these diseases appeared.

INDIANA.—Dr. Metcalf, Secretary of the State Board, said his Board did not get immediate information of the existence of the diseases named. Very often the first knowledge of them was obtained from the newspapers; if inquiry verified the papers, he sent circulars, and in exceptional cases made personal visits.

KENTUCKY.—Dr. J. N. McCormack, Secretary of State Board, said: We do not always receive prompt notification of an outbreak of the diseases named, except it be of small pox. Reports in regard to the other diseases are only made at regular intervals, unless they assume alarming proportions or threaten to pass out of the jurisdiction or beyond the control of the local authorities. We do not send experts unless requested to do so by the local authorities or in cases where such authorities fail or refuse to act. The legislative act creating our Board was evidently framed with the idea that the Board should act mainly as a central bureau for the collection and dissemination of information from and to the local authorities and people, and was only expected to exercise the extraordinary powers given it in such emergencies and epidemics as can not be successfully managed by the county and city Boards. Any other method would do violence to the system of Government in our State, and would be likely to engender such jealousies and hostilities between the local Boards and the State Board as would more than counterbalance the good results from such interference.

KANSAS—Dr. W. L. Schenck said legal provision is made for the notification of infectious diseases, and it is reasonably general and prompt. Our Board does not send experts to cases unless some special necessity exists, and in each case we do whatever the outbreak seems to demand.

MAINE.—Dr. A. G. Young, Secretary of the State Board of Health, said:

Our new law, making it compulsory upon every town to have a Board of Health, has but recently gone into operation, and a few towns have not been heard from. Our law provides for the reporting of all these contagious diseases to the local Board, and through the executive officer of the local Board to the State Board. I think the new Boards generally are trying to do their duty, and have made a good beginning. The most of these outbreaks of infectious diseases, I think, are reported. With this explanation I would answer that we do not receive prompt notification from *all* parts of the State.

In the one case of small-pox which has occurred during the year the Secretary of the State Board immediately visited the locality and found that the newly-appointed Health Officer had promptly recognized the case and as promptly quarantined it. With the other diseases the sending of any expert to every case would be impracticable.

It is the endeavor of the State Board to keep the local Boards supplied with circulars, for popular distribution, giving the proper preventive measures for these four diseases, and also the following blanks: One for the use of physicians and householders, on which notification may be made to the local Boards; one on which the Secretary of the local Board or the Health Officer may notify the State Board; a third for a weekly report to the State Board during the prevalence of these diseases or any one of them; and a fourth blank on which the local Board is required to make a special final report. The last three are in form much like those in use in Michigan. The notification usually gives important data from which to judge of the character of the local preventive work and often says that the house is placarded. The State Board immediately sends a supply of preventive disease circulars, and a brief one on disinfection, and gives usually by letter such further directions as may be thought necessary.

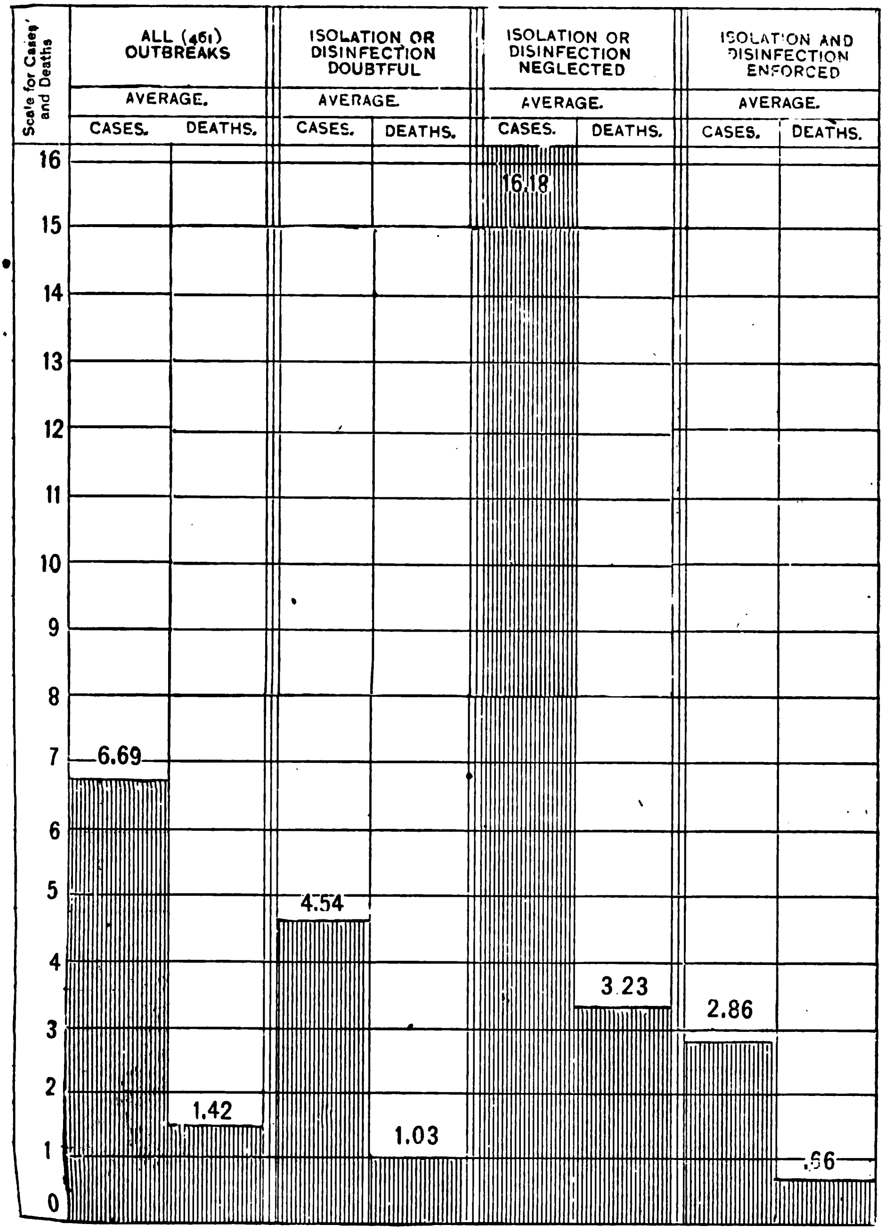
Dr. Baker, Secretary of State Board of Michigan, said, in answer to the question:

(1.) As a rule the Michigan Board does receive from every part of the State prompt notice of the occurrence of small-pox, scarlet fever and diphtheria, and reports of the occurrence of typhoid fever are beginning to be generally received; the proportion of such occurrences reported is somewhat in proportion to the time during which the State Board has been laboring to educate the people relative to each disease; next to small-pox the first disease brought to the notice of the citizens of Michigan was scarlet fever, and it is now generally known in Michigan that this is a disease dangerous to the public health and must be reported; next, diphtheria was taken up, and more recently typhoid fever.

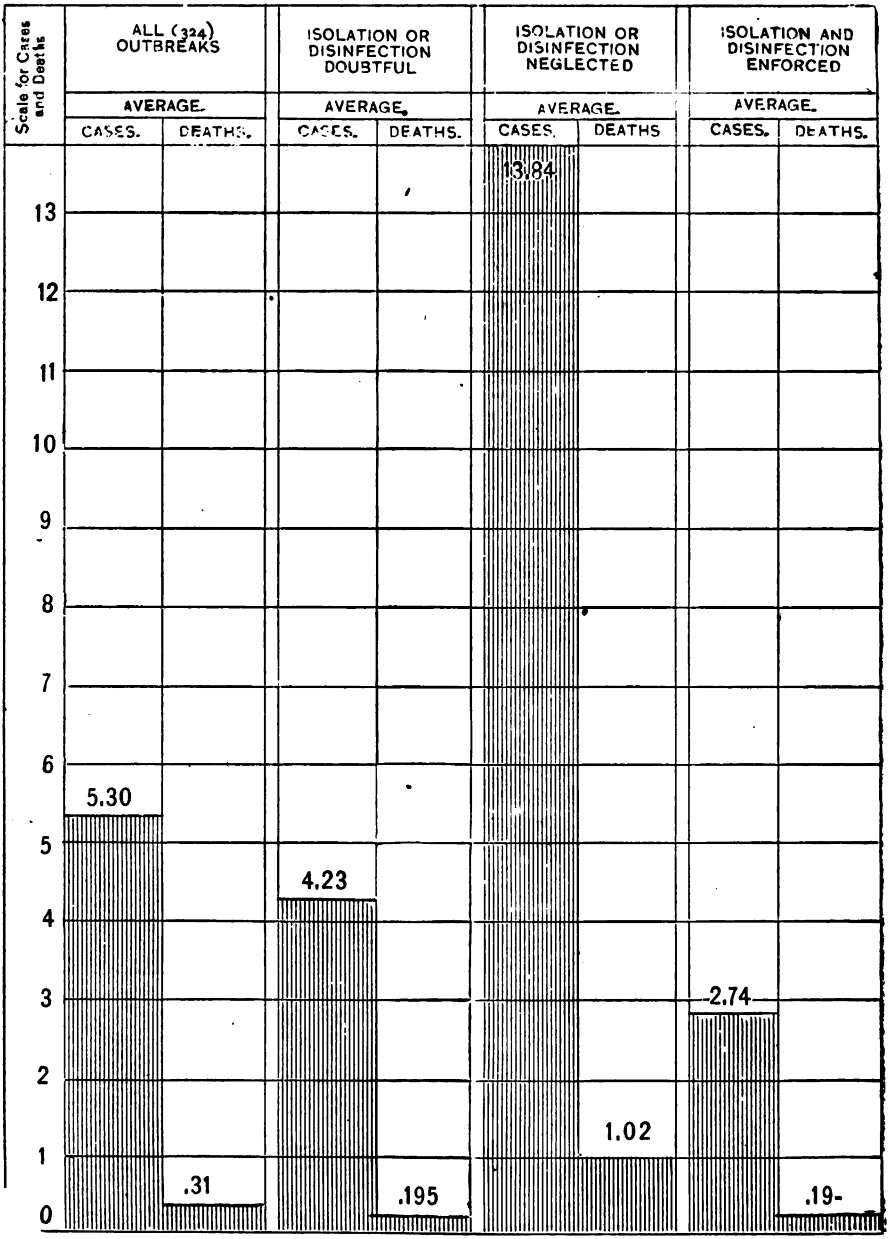
(2.) The Michigan Board does not generally send an expert to a locality where a dangerous disease occurs. [This subject Dr. Baker dwells upon in his paper on the " New Means of Prevention," etc.]

(3.) On receiving notice of a case of diphtheria, scarlet fever, typhoid fever or small-pox, the information is at once recorded in a book specially prepared for each of these diseases, showing at a glance several facts which aid in obtaining further information and compiling the data at the close of the year. Pamphlets containing concise instructions how to restrict that particular disease are immediately sent to the health officer with a request that he distribute to the *neighbors* of the families in which the sickness is, because it is believed that they will be most likely to read them at such times and to guard their own families from the danger. The idea of danger *from* neighbors is then readily accepted, and the idea of danger *to* neighbors is afterwards in some cases more easily accepted than if that idea were first presented. The health officer if urged to stamp out the disease; to isolate, disinfect, and report weekly the status; and after the disease is over a final report is required stating the number of cases, number of deaths, kind and amount of disinfectants used, and other methods employed. At the office of the State Board all such information is tabulated and published in the annual report of the Board. An effort is made to utilize such information as soon and thoroughly as possible. For instance, I show you a diagram which exhibits at a glance on a single page the results of the action of the health authorities throughout the State, during the year 1886, relative to the spread of diphtheria. It shows that in the 461 outbreaks, the average number of cases was 6.69 and the deaths 1.42 to each outbreak; that in the 116 outbreaks in which isolation and disinfection were enforced the averages were: Cases, 2 86; deaths, .66, while in the 102 outbreaks in which either isolation or disinfection was neglected the cases and the deaths were about five times as many, namely: Cases, 16.18; deaths, 3.23. A similar diagram shows the results of action to restrict scarlet fever. The differences, however, are not so great as in diphtheria. One of these leaflets, giving the combined expression of all the health officers relative to a given disease, is sent to a health officer who reports the presence of one of these diseases, and can not fail, I think, to supply stimulus for more effective efforts for isolation and disinfection.

Diphtheria in Michigan in 1886, exhibiting the average numbers of cases and deaths per outbreak: (1) In all the 461 outbreaks reported; (2) in the 243 outbreaks in which it is doubtful whether or not disinfection or isolation were secured; (3) in the 102 outbreaks in which isolation or disinfection or both were neglected, and (4) in the 116 outbreaks in which isolation and disinfection were both enforced. (Compiled in the office of the Secretary of the State Board of Health, from reports made by local health officers.)



Scarlet fever in Michigan in 1886: The average number of cases and deaths per outbreak—(1) in all the 324 outbreaks reported; (2) in the 221 outbreaks in which it is doubtful whether or not disinfection or isolation were secured; (3) in the 45 outbreaks in which isolation or disinfection or both were neglected; and (4) in the 58 outbreaks in which isolation and disinfection were both enforced. (Compiled in the office of the Secretary of the State Board of Health from reports made by local health officers.)



Dr. Hunt, of New Jersey, said: We do not receive prompt notification of the occurrence of all cases of infectious diseases. Our great effort is to make the local boards feel the responsibility of the care of these outbreaks and get them to act. In cases of serious epidemics we send experts if the circumstances seem to require it.

Dr. T. F. Wood, Secretary of the State Board of North Carolina, was detained by illness from attendance upon the conference, but in response to the questions under consideration, sent the following communication to the Secretary:

WILMINGTON, Sept. 13, 1887.

Dr. C. A. Lindsley, Secretary of Conference, New Haven, Conn.:

DEAR SIR—In reply to the questions on circular referred to me by Dr. Jones, would say that this Board does not receive prompt notification of contagious diseases, there being no requirements for such notification except through the regular monthly reports. When the pecuniary condition of our Board will permit such prompt notification will be required, and an expert will be sent to inquire into its cause, etc., but at present this is impossible. Nothing is done on receiving notice of these diseases, this being left to the Superintendent of Health of the different counties. However, should an epidemic threaten, the contingent fund of $2,000 provided by the State, would become available and would be used. Am sorry not to have been able to attend the conference.

Yours, very truly,
THOMAS F. WOOD, M. D., *Secretary.*

OHIO.—Dr. Probst said: No; prompt notification is not received from every part of the State. The law makes it the duty of physicians to report such cases promptly to local health officers, who, in turn, are required to report to the State Board of Health. In places not provided with health officers it is the duty of physicians to report direct to the State Board. There is no penalty attached in either case for a violation of the law, and reports are not generally made. About three hundred physicians act as regular correspondents of the Board, reports being sent in on blanks furnished by us. Of the entire number, however, only about seventy-five report each week. Experts, as a rule, are not sent to investigate outbreaks of these diseases Members of the Board have made investigations in three instances. As to what is done on the report of such cases, the following blanks are sent to physicians on the report of cases of diphtheria, scarlet fever, or typhoid fever, while circulars relating to these diseases are usually sent to the family, the physician, or to some public official for distribution.

COLUMBUS, OHIO.

DEAR DOCTOR: I find you have reported for the week ending . . . .
. . . . cases of diphtheria.
. . . . cases of scarlet fever.
. . . . cases of typhoid fever.

We desire to collect all the facts possible relating to outbreaks of dangerous communicable diseases, and you will confer a great favor on the Board by answering the questions on the inclosed blanks.

We send you a blank for *each case* reported, and you will please number them—1, 2, 3, etc., in your answers.

At the end of the year it is expected such reports will enable us to collate valuable data concerning the origin, mode of communication, etc., of contagious diseases These will be used in our annual report, where due credit will be given to all who have aided in their collection.

Please inform me if the circular issued by the Board regarding the restriction and prevention of this disease would be of use, and to whom we could send copies for distribution.

Yours, very respectfully,
C. O. PROBST, M. D., *Secretary*.

DIPHTHERIA.

CASE No . . . .

1. Where does the patient reside?
2. Are there other cases of diphtheria in the same house?
   How many?
3. Are there other cases in the neighborhood?
   About how many?
4. Has a case of diphtheria ever occurred in the house in which the patient resides, and if so, how long since?
5. Please state any facts known regarding the exposure of this case to other cases of diphtheria, or bearing on its origin?
6. What is the sanitary condition of the house and surroundings?
7. What measures were used to prevent the spread of the disease? (Isolation, disinfection, quarantine of members of the family, private funeral in case of death, etc.)
8. What success in restricting the disease attended these measures?
9. Please give any other facts known of interest in determining the origin of this case, or manner of spreading the disease.

Residence.
Date.
Name.

TYPHOID FEVER.

CASE No . . . .

1. Where does the patient reside?
2. Are there other cases of this disease in the same house?
   How many?
3. Are there other cases in the neighborhood?
   About how many?
4. Has a case of typhoid fever ever occurred in the house in which the patient resides, and if so, how long since?
5. Please state any facts known regarding the origin of this case.
6. Whence is the drinking water, used by the patient, obtained?
7. Is this water liable to contamination from any privy vault, cess-pool or other source?
8. Were the stools of the patient disinfected, and how?
9. Please give any other facts known of interest in determining the origin of this case, or manner of spreading the disease.

Residence.
Date.
Name.

SCARLET FEVER.

CASE No . . . .

1. Where does the patient reside?
2. Are there other cases of this disease in the same house?
How many?
3. Are there other cases in the neighborhood?
About how many?
4. Has a case of scarlet fever ever occurred in the house in which the patient resides, and if so, how long since?
5. Please state any facts known regarding the exposure of this person to other cases of scarlet fever, or bearing on its origin.
6. What measures were used to prevent the spread of the disease? (Isolation, disinfection, quarantine of members of the family, private funeral in case of death, etc.)
7. What success in restricting the disease attended these measures?
8. Please give any other facts known of interest in determining the origin of this case, or manner of spreading the disease.

Residence.
Date.
Name.

Dr. Lee, of Pennsylvania, in reply to the first question, said he was compelled to answer in the negative. Pennsylvania, he regretted to say, was still entirely without a thorough system of sanitary organization. The first intelligence received by the Board was usually through the public press, although it occasionally happened that the local authorities—as, for instance, the burgesses of a borough—would make early application for the assistance of the Board, or that an intelligent physician would rise to the emergency of the occasion and send prompt notice. The Board made strenuous efforts during the past winter to obtain the passage of a law which would have made prompt notification from every nook and corner of the State entirely feasible. This contemplated the appointment by the State Board of a health officer in every township. These officers, acting conjointly with a county health officer, were to form a Board of Health for each county. But all were to be directly responsible to the State Board. The plan appeared simple and thoroughly practical, but the Legislature failed to appreciate its necessity. In the absence of any such legal provision the Board had soon after its organization divided the State into inspection districts, of which there were fifteen, each including about four counties. On receiving, whether through the public press or whatever medium, intelligence of the unusual prevalence of a contagious disease the Inspector of a district was immediately notified by telegram or mail, as the urgency of the case appeared to demand, to proceed to the point, investigate the truth of the rumors, and report to the Secretary. If the report was such as to warrant stringent measures, the Secretary conferred upon the Inspector full power of isolation, quarantine and disinfection for this particular outbreak; and if, in the judgment of the Inspector, the case demanded it, the Secretary himself proceeded to the place and assumed the direction of the precautionary measures. He abstained from interference, however, wherever it was possible, believing it better for people to manage their own affairs. In fact, he has found that the rural population, acting through local authorities, either the Directors of the Poor or some of the township officers, had a rough and ready way of their own of dealing with smallpox.

He could not find a shadow of statutory authority for it, and yet they did not hesitate to declare and enforce quarantine in the strictest manner. He found the local authorities, however, always glad to receive the advice and coöperation of the Central Board. His custom, in reference to the important matter of educating the people by means of circulars, was to give each circular a free distribution at the time of its issue, acting through local Boards of Health, civil or borough authorities, and Boards of Education. The last named instrumentality he considered a very important one, especially when information was to be imparted in reference to the diseases of childhood. After this first distribution circulars were reserved for emergencies and placed where they would do the most good.

Dr. C. H. Fisher, Secretary of the State Board of Rhode Island, said that it was hardly possible for the small-pox to get large prevalence in Rhode Island, because of the large proportion of the citizens who were protected by vaccination. The statutes required every town to provide gratuitous vaccination every year for all persons, and all children entering the public schools for the first time, or from abroad, were required to show a certificate from a reputable physician that the individual had been successfully vaccinated as a protection from small-pox. Prompt notification had been given the State Board of the existence of small-pox, and town and city health officers had been of late years equally prompt in measures for restriction and prevention. All the town health officers have mandatory powers by authority of the statutes, for immediate action upon the occurrence of cases of small-pox, cholera, or yellow fever, or other circumstances greatly endangering the public health. Notice is not given the State Board, by requirement of law, of the prevalence of diphtheria or scarlet fever, but is given voluntarily, or when advice is sought or opinions desired in regard to cause and methods of restriction. In point of fact, notice is usually given in cases of epidemic prevalence of all diseases. Ordinances exist in most of the towns requiring the exclusion of children residing in houses where contagious disease prevails from attendance at school, and the closing of the schools by order of the health officers, when deemed expedient, during epidemic prevalence of contagious diseases.

South Carolina.—Dr. F. F. Gary said that the State Board did not receive prompt notification of all the infectious diseases occurring in the State, and did not usually send experts when it was notified. In extraordinary cases investigation was made of the facts by some member of the Board and circulars were distributed containing the latest and best advice as to "What to Do" when such diseases prevail and how to prevent this spread.

Tennessee.—Dr. J. B. Lindsley, Secretary of the State Board, said his Board must reply in the negative in regard to receiving prompt notification and sending reports. But when informed of the prevalence of infectious diseases in special localities much dependence was placed upon sending appropriate circulars containing the necessary information for the guidance of local authorities and the friends.

Vermont.—Dr. C. L. Allen said: In each township in the State of Vermont there exists a body of men, termed *selectmen*, consisting of three or five, to whom the general interests of each township are intrusted. These are, in reality, local Boards of Health. They are clothed with authority to act whenever small-pox or any contagious or infectious disease may exist in the community. They have power to abate nuisances, and to make any regulations they see fit in regard to the removal or prevention of the causes of disease, or that may have an influence upon public health. These duties, however, have almost universally been neglected. The selectmen have usually confined their actions to the financial and other material, but less important interests of their respective townships.

At its last session, the State Legislature created a State Board of Health, entrusting to it certain duties, but clothing it with no authority. This Board has been organized but a few months. The first official act was to issue a circular to the selectmen, calling attention to their duties in regard to the public health. And it is gratifying to see that some impression has been made. A certain number are asking for more definite and detailed directions as to the regulations which they ought to make. And it is to be hoped that when we get into good running order, the selectmen, the real local Boards of Health, will act in concert with the State Board, and send in promptly information as to the condition of public health in all parts of the State.

I make these preliminary remarks that the National Conference may understand the reason why the Vermont Board has, as yet, never received notice of the existence of contagious diseases in any part of the State. Hence, of course, we have never had occasion to send any one to investigate such cases.

I may state, however, that if I should hear, directly, or otherwise, that small-pox, scarlatina, diphtheria, measles or typhoid fever was extensively or severely prevailing in any locality, I should consider it my duty to visit that place at once for the purpose of advising with the selectmen.

Upon the question of the receipt of prompt notification of the occurrence of diphtheria and other specified diseases, and as to just what is done by each State Board of Health on receiving notice of the existence of one of such specified diseases, Dr. J. T. Reeve, of Wisconsin, said:

"Wisconsin has an organization such as is necessary to secure the notification of contagious disease in the manner contemplated in this question. Under our laws a local Board of Health must be organized in every town, village and city in the State; all physicians must report to the local Boards which have jurisdiction of the places in which such diseases exist, all cases of three of the diseases named in this inquiry, namely: Diphtheria, Small-pox and Scarlet Fever; and the local Boards must, in their turn, report to the State Board. Typhoid fever is not specifically mentioned in the law as one of the diseases to be reported, but the State Board of Health has power to add to the list any disease that it may, by resolution, declare to be dangerous and contagious.

' Our machinery for obtaining reports is, therefore, good, and practically, I believe we are notified of the occurrence of these diseases in a large proportion of instances. A question that we frequently ask of local Health Boards is whether physicians are prompt in giving notice of the appearance of such diseases as the law requires, and the answer to this question is generally such as to make us feel that good, and progressively good—though in many cases far from perfect—work is being done in this direction.

"With reference to sending experts to lacalities where such diseases exist, it would, as a rule, be wholly impracticable so to do, often unneccessary, and probably often unwise. When, however, circumstances have seemed to require it, the secretary, or some member of the Board, has visited the infected locality, and, with the local authorities has investigated the causes of the origin or continuance of the disease, and has advised as to the proper or practicable means for its control or arrest. We believe it wise to work as much as possible by means of the local Boards of Health.

On receiving such notices they are first systematically recorded in our books, after which their receipt is courteously acknowledged, with thanks for promptness and completeness, where such thanks are due, with effort to secure promptness and completeness in future reports where there has been manifest delay in the one respect or lack in the other, and with special letters of advice or encouragement to the local Board where this seems necessary or desirable. In all cases we supply the local Board liberally with circulars for general distribution, treating of the nature and management of the particular disease that may be prevalent at the time in the locality, and we endeavor also to utilize the local press by securing the republication of such circulars through its means. Finally and chiefly, taking advantage of the prevalence of disease in any locality and using it as a text, we endeavor to educate both the local Boards of Health and the public in matters of general and special sanitation, and to create and build up that public sentiment in favor of the enactment and enforcement of sanitary laws, without which the simple existence of such laws upon the statute books has and can have no value whatever.

Dr. Bryce, replying for the Province of Ontario, said: The methods in practical operation in Ontario are very similar to those indicated by the last two speakers. Since 1884 there has practically been in every township a local Board, with powers extended to it by Provincial statute, and with further powers under a by-law, common to all, but liable to amendment by the municipal council. The powers of the local Boards are extensive and ample for dealing with all forms of infectious disease, but experience has taught us that the very occasional outbreaks in the less populous municipalities, and ignorance of the duties which by law are imposed upon them, have frequently prevented Boards from taking such prompt action as the case demanded. The result has been that from the year 1884 amendments have yearly been adopted by the Legislature at the suggestion of the Board, which have made the relations between local Boards and the Provincial Board most intimate. In small-pox, etc., it has been the duty of Medical Health Officers (who have to be appointed where non-existant in a municipality, within five days after an order to appoint them has been laid upon the local Board, the alternative being their appointment by the Provincial Board at the expense of the municipality) to carry out the local laws and any special regulations which may be adopted by the Provincial Board. To complete this close relationship between the central executive and the local executive the clause of the Health Act prescribing the duties of the Provincial Board was amended in 1887 by the following clause:

6. Section 3 of the act passed in the forty-fifth year of Her Majesty's reign, chapter 29, is amended by inserting after the word "disease," in the fourteenth line, the following: "They shall inquire into the measures which are being taken by local Boards for the limitation of any existing dangerous, contagious or infectious disease, through powers conferred upon said local Boards by any public health act, and should it appear that no efficient measures are being taken and that the said powers are not being enforced, it shall be competent for the Provincial Board, in the interests of the public health, to require the local Board to exercise and enforce any of the said powers which, in the opinion of the Provincial Board, the urgency of the case demands; and in any such case where the local Board, after request by the Provincial Board, neglect or refuse to exercise their powers, the Provincial Board may, with the approval of the Minister of the Department under which the Board is for the time being acting, exercise and enforce at the expense of the municipality any of the powers of local boards which under the circumstances they may consider necessary."

A very general consent is yielded to these provisions of the law, and we are endeavoring, under the *ægis* of this clause, to force the general adoption of thorough inspection of milk and meat by the large municipalities, and to still further protect the public against the introduction of diphtheria by these sources. We recommend this line of action to the various State Boards, with regard to obtaining increased powers.

The next question taken up for consideration by the conference was the following: What are the best methods for securing sanitary legislation?

Dr. Baker said that he thought it useful to remember that each member of the Legislature is elected by a comparatively small proportion of the people in the State—the people living in one representative or senatorial district. The legislators represent the interests of the people in their own districts, and are not elected to represent the great general interests of the State, concerning which some of them have given little thought except as brought to their attention by the supposed interests of their constituents. Therefore, in order to secure the attention of legislators it is, as a rule, necessary that the subject shall be of interest to their own constituents, and when a proper subject is properly placed before a legislator by one or more of his own constituents, his experience is that the legislator usually gives the subject respectful consideration, and his support, if the proposition is not inconsistent with his convictions. In Michigan there are a large number of health officers and other persons interested in sanitary progress, and when these persons in different parts of the State use their influence upon their respective members of the Legislature it has force. Sanitary conventions spread among the people of the localities where they are held an influence which acts for good whenever legislation is proposed affecting the sanitary interests of the people of the State.

Dr. Lee said that defeat might perhaps teach a lesson where victory failed to instruct. The experience of the past winter had convinced him that one of the most important methods of obtaining legislation was to secure the interest and coöperation of a leader in each house. It will not do to depend on educating the people to a point where they would demand legislation in the interest of the public health. The process is too slow. The legislation itself must educate the popular mind. The Pennsylvania Board had the good fortune to obtain the services of a prominent and intelligent member of the House of Representatives, and under his able leadership all their measures passed that body. In the Senate, however, they were not successful in securing a champion, and the consequence was that not a single one of their acts went through, except such as were absolutely essential to the continued existence of the Board. One single, strong man, whom the mass of legislators are in the habit of following, is worth twenty who do little else than vote.

Dr. J. N. McCormack, of Kentucky, said: Our Board submits this question to the Conference because its members feel that they need information on the subject. Much better results have attended efforts to secure medical and sanitary legislation in some of the other States, and we have felt that there must be something in the methods employed, or in the attending circumstances, to account for this success. Formerly, our opposition came chiefly from members of the medical profession, but this source of trouble has been almost entirely removed. This grew almost entirely out of the fear which possessed the medical colleges of the country a few years ago, that legislation would go too far in regulating the practice of medicine. Frank conferences with representatives from the schools, and a perfect understanding between them and us as to what was to be desired and what avoided, readily secured their coöperation, as well as that of the medical press, which is, of course, largely influenced by school interests.

A general outline of proposed new legislation is now sent to the various county boards and leading physicians throughout the State in advance of the meeting of the Legislature, in order that members of that body may have the opinion of their home physician as to the merits of such legislation. The bills are then submitted to leading members of the two houses for criticism and suggestions, in order that they may be as complete and free from objection as possible, before they are offered or printed. We have succeeded much better with these methods in latter years, but our laws are still very defective on many points, and we will be very thankful for suggestions from gentlemen present, who has large and successful experience in practical dealings with this subject, will make anything coming from them in regard to it of the highest value.

Dr. W. L. Schenck, of Kansas, said: The best methods of securing sanitary legislation doubtless differs somewhat in different States. Having almost wholly failed in Kansas, we are anxious to learn the secret of success.

We recognize that our first difficulty is with the medical profession. For example, the State society of one school of medicine (eclectic), resolved not long ago, "that legislation on sanitary subjects is timely when the people demand it," and in all schools there seems to be those who think with the silversmith of Ephesus, who made shrines for Diana, "by this craft we have our wealth." Even among the better informed and more honorable physicians there is a lukewarmness that evidences a want of appreciation of the importance of preventive medicine and the relation of the profession to the public. We must educate and enthuse the profession.

The average legislator is superior to education. The moment he has received the franchises of his district he springs, like Minerva from the brain of Jupiter, fully fledged, and is indignant at the intimation that there is anything he does not fully comprehend, and is even suspicious of his family physician if he suggests sanitary legislation. I met a fair example of this kind of legislators a few weeks ago. The Hon. F. was spoken to by a member of his State Board of Health, when he replied, "Oh, my God! don't bore me about that. When I was in the Senate a set of d—d cranks bored me to death." The cranks were a committee of the most intelligent sanitarians in the State. The Senator couldn't tell the difference between carbonic acid gas and oxygen.

Education must go back of the legislator and teach the people the vital importance of sanitary law. Sanitary science must be taught more thoroughly in our medical schools, and through the physician come to the public school and the people.

It is so poorly comprehended that even in those States where State Boards of Health are established and sanitary laws enacted they stand on sandy foundations.

Dr. F. F. Gary, of South Carolina, in replying to the question, "What are the Best Methods of Securing Sanitary Legislation?" said: Through organized Health Boards. I believe in thorough organization of National, State and Municipal Boards of Health. As medical men are the most advanced and best acquainted with sanitary science, let them, wherever there is a medical society or association, *organize* and secure a State Board of Health, then local Boards. Now let each State Board co-operate in securing a National Board, under the sanction of Congress, with authority to act in conjunction with State Boards of Health. After a State Board is organized let the people be educated to the extent of their ability, because every industry, as well as our material prosperity, is largely dependent upon public health. Let them be taught that public health means much more than sewerage or lot inspection. It embraces our whole physical existence. And let each Board discuss what sanitary laws are needed and call the attention, *through one of their members of the Legislature*, to their wants. It is astonishing how much ignorance exists among the average legislators and how reluctant they are to appropriate money for such an object. We must educate them and be able to show the importance of such legislation. If we can succeed in electing some of our profession to the Legislature so much the better. A few members can wield a great influence in shaping appropriate legislation if they are in earnest. We want a National Board to whom can be referred all matters of a National character, such as regulations for quarantine that would protect the public health with the least injury to vested rights and commercial enterprises; something uniform in action and effective in its results.

Dr. Henry B. Baker, for the committee appointed to draft a constitution and by-laws for the Conference, made a brief verbal report and submitted the following recommendation which was by unanimous vote approved in this resolution:

Resolved, That representatives of State Boards of Health which have no appropriations and consequently are inactive, be assured that they will be cordially welcomed to join with us in our deliberations, and will not be expected to contribute funds for the maintenance of this organization.

REPORT OF COMMITTEE ON OBITUARY RESOLUTIONS.

The committee to which was assigned the grateful duty of preparing resolutions of respect to the memory of members of State Boards of Health deceased during the past year, begs leave respectfully, to report the following resolutions:

Resolved, That, in the death of Dr. Edward William Germer, late President of the State Board of Health of Pennsylvania, this Conference has been deprived of the services and counsel of one whose wise and emphatic utterances were always listened to with pleasure and respect.

Resolved, That few sanitarians in this country were more thoroughly versed in the principles and imbued with the spirit of hygienic reform.

Resolved, That the entire devotion of his time and energies to his duties as Health Officer of his own city, and as member of the State Board of Health of his State often to the injury of his private interests, and there is reason to fear, with the result of shortening his days, the noble courage with which he faced epidemics, acting, as has been well said in one instance, as "health officer, physician, nurse and undertaker," commend him as representing the highest type of the practical sanitarian and the Christian man.

Resolved, That this Conference desires to extend to the State Board of Health of Pennsylvania, its appreciation of the loss sustained in the death of so valuable a member—and to the family of the deceased, its sincere sympathy with them in the bereavement of one whose kindly nature and ready sympathies so endeared him to all who knew him.

Resolved, That in the recent death of Dr. D. W. Stormont, of the State of Kansas, preventive medicine has lost a warm friend and an earnest supporter.

Resolved, That in their great loss we sympathize with his family, his co-laborers of the Kansas State Board, and the commonwealth of Kansas.

JOHN S. RAUCH,
W. L. SCHENCK,
BENJ. LEE,
Committee.

REPORT TO THE INTERNATIONAL CONFERENCE OF STATE BOARDS ON NOTIFICACATION OF INFECTIOUS DISEASE.

Your Committee begs leave to report the following:

Resolved, 1. That the Conference reaffirms the principles contained in the resolutions adopted by it at its meeting in Toronto, in 1886.

2. That the communicable diseases hereinafter mentioned, prevalent in certain areas, or which tend to spread along certain lines of travel, be reported to all State and Provincial Boards within said area or along said lines of communication.

3. That in the instance of small-pox, cholera, yellow fever and typhus fever, reports be at once forwarded, either by mail or telegraph, as the urgency of the case may demand; and further that in the instance of diphtheria, scarlatina, typhoid fever, anthrax or glanders, weekly reports, when possible, be supplied, in which shall be indicated, as far as known, the places implicated and the degree of prevalence.

All of which is respectfully submitted.

PETER H. BRYCE,
HENRY B. BAKER,
J. BERRIEN LINDSLEY,
BENJ. LEE,
J. T. REEVE,
E. M. HUNT.
Committee.

The report having been read it was voted that the vote, on its adoption, be taken by States. The vote being so taken was unanimous in its favor by all the States and Provinces represented by delegates present.

The following resolution, offered by Dr. Reeve, of Wisconsin, and amended by Dr. Lee, of Pennsylvania, was adopted:

Resolved, That the Secretary of this Conference be requested to send copies of the resolution on Inter-State notification of contagious diseases to the Executive Officers of all Boards of Health belonging to this Conference, and to request from each of such Boards not here represented a vote upon the same for record as an appendix to the minutes of this meeting.

Henry B. Baker, A. M., M. D., Secretary of the Michigan State Board of Health, reported on the "New Means" of restricting dangerous communicable diseases:

At the meeting of the Conference of State Boards of Health in Toronto, in 1886, I had the honor of reporting on the subject of "Success in Restricting Communicable Diseases," and in doing so dwelt mainly upon the work with which I was most familiar, namely: That in Michigan. The success in Michigan seemed to me to be proved by the record of deaths reported to the Secretary of State. Incidentally it appeared that the success was greater under one method than under another method of work; therefore, the most complete and successful method was mentioned, whereupon Dr. Hewitt, of Minnesota, said: "That if it was true that there had been a diminution in disease in Michigan since the organization of the State Board of Health, owing to the distribution of circulars and other documents, then there was a new means of prevention."* Dr. Hewitt said he "thought the distribution of circulars was not of so much account as the distribution of men." Although I do not suppose that at present there is a State in this Union where there is sent to localities where communicable diseases occur such a distribution of men able to give the specific information contained in any one of the several documents issued by one of our State Boards of Health, yet Dr. Hewitt's remark appears worthy of further consideration, and I have collected a few facts and thoughts bearing upon the proposition indicating about the number of men required in Michigan to carry into effect the "distribution of men" suggested by Dr. Hewitt.

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* Page 53, of Proceedings of Conference at Toronto.

TABLE I.

NUMBER OF PLACES IN MICHIGAN AT WHICH COMMUNICABLE DISEASES WERE REPORTED PRESENT DURING EACH WEEK IN 1886.

Week Ending		Diphtheria.	Scarlet Fever.	Typhoid Fever.	Measles.	Small-Pox.
January	9	26	9	2	1	0
	16	28	18	3	3	0
	23	25	25	3	5	0
	30	23	18	6	4	0
February	6	28	22	4	7	0
	13	23	31	5	5	0
	20	28	24	4	3	0
	27	17	16	3	3	0
March	6	17	22	5	3	0
	13	13	17	5	1	0
	20	16	16	6	4	0
	27	15	14	3	7	0
April	3	16	14	5	4	0
	10	18	15	3	6	0
	17	18	12	1	3	0
	24	18	13	1	5	0
May	1	17	15	2	5	0
	8	21	11	4	9	0
	15	18	14	3	9	0
	22	20	15	4	9	0
	29	23	22	2	8	0
June	5	22	24	2	6	1
	12	13	16	2	8	2
	19	19	15	1	5	1
	26	14	14	4	6	2
July	3	11	12	2	3	2
	10	16	13	6	1	2
	17	12	9	6	4	2
	24	19	9	8	5	2
	31	16	10	9	6	2
August	7	14	13	11	5	2
	14	23	11	14	7	2
	21	15	12	16	5	2
	28	20	12	21	5	2
September	4	21	9	17	8	3
	11	23	11	21	5	1
	18	28	12	24	6	1
	25	28	12	19	7	1
October	2	27	12	23	3	1
	9	26	16	20	3	1
	16	26	20	19	5	1
	23	42	18	20	3	1
	30	36	21	15	4	1
November	6	25	20	18	6	1
	13	33	17	23	9	1
	20	32	19	19	4	1
	27	34	21	11	4	1
December	4	41	23	15	6	1
	11	30	14	11	6	1
	18	24	15	11	6	1
	25	29	21	10	4	0
1887.						
January	1	23	13	6	10	0
Total,		1,170	827	478	269	42
Av. per week,		22½	15 47-52	9 5-26	5 9-52	21-26

Taking the sum of the averages in Table I as representing the total number of places in which communicable diseases were reported each week, we have a total of fifty-four places per week, at which one or more of the diseases were reported present. This shows too many places, however, as at Detroit and a few other places two of these diseases are present nearly all of the time, and a Health Officer is acting, more or less, all the time.

Selecting a few weeks as typical of the different seasons of the year, I have prepared the Table II to show the number of *different* places at which the diseases were report present, counting each locality but once. Thus the places at which scarlet fever, typhoid fever, measles, and small-pox are reported are each additional to and distinct from those reporting diphtheria or any other communicable disease.

TABLE II.

AVERAGE NUMBER OF PLACES WHERE COMMUNICABLE DISEASES WERE REPORTED IN 1886.

Weeks ending	Diphtheria.	Scarlet Fever.	Typhoid Fever.	Measles.	Small-pox.	Total.
January 16	28	13 addit'nal.	1 addit'nal.	1 addit'nal.	0 addit'nal.	43
June 19	19	11 “	0 “	2 “	1 “	33
October 16	26	14 “	16 “	1 “	0 “	57
Decemb'r 18	24	9 “	6 “	2 “	0 “	41
Totals . .	97	47 addit'nal.	23 addit'nal.	6 addit'nal.	1 addit'nal.	174
Averages .	24¼	11¾ “	5¾ “	1½ “	¼ “	43½

Table II shows an average for each week of forty-three separate and distinct places at which one or more of these communicable diseases were reported present; and this number, forty-three, divided by the number of places which an expert could in each week visit and perform his service, will indicate the number of experts which would have been required for the proposed "distribution of men" in Michigan in 1886. The localities are somewhat widely scattered; but, perhaps, an expert might visit and act at four places per week, in which case eleven men would thus be constantly employed. One question bearing upon Dr. Hewitt's proposition is the expense; another question is one in Social Science, namely: Whether it is best for a central office to do the main work of combating contagious diseases, or whether it is best that each locality should be trained to do this for itself To this last question I have no hesitation in saying that, in my opinion, it is best to teach the localities to do this for themselves. But if the central office can afford the expense, it may be practicable, and if so, it seems to me it would be very useful to so far adopt Dr. Hewitt's suggestion as to have one expert, or more *sanitary inspectors*, constantly traveling from place to place to inspect the work of disinfection, etc., in localities. Thus far very little of such work has been done in Michigan. We have once had a well-informed Health Officer visit a distant place to aid in restricting diphtheria, and the disease was restricted. Two or three times we have had an expert visit a locality to aid in restricting small-pox. I have visited a few places to investigate certain communicable diseases; but, as a rule, we have relied upon the mail, the telegraph, and the telephone from the office of the State Board to the local Health Officer, that by law is required to be appointed in every township, city, and village in Michigan, over fourteen hundred organizations in all, the majority of which have complied with the law.

You have probably noticed that the "New Means of Prevention," treated of in this paper, is not altogether the distribution of documents which Dr. Hewitt thus characterized, but it is in great part the "distribution of men" suggested by Dr. Hewitt. Several of our State Boards of Health have distributed documents, and Michigan makes no claim that such distribution is now a new means of prevention; yet we do claim that statistics of sickness and deaths in Michigan in 1886, collected since the last meeting of this Conference, conclusively show that there was a large saving of life and health in Michigan in the year 1886 from scarlet fever, and especially from diphtheria, in certain localities where the directions contained in the pamphlets sent and distributed in these localities were carried into effect. This great saving of life and health was, we believe, in a considerable degree, due to the distribution of documents to the neighbors of persons sick, as well as to the Health Officers. If, by means of statistics or otherwise, the "distribution of men" can be shown to promise better results, we should hail it as a great blessing to humanity.

UNFINISHED BUSINESS.

Dr. A. G. Young, of the Committee on the codification of the Health Laws of the different States and Provinces, made a brief report of progress, and the Committee was by vote continued.

On call upon the Committee on "Collective Investigation of Disease,"

Dr. Fisher said: That when his appointment upon that Committee became known to him he said to himself, that on his part he would endeavor to draw up a statement presenting reasons why a method of collective investigation, such as proposed, might be productive of good results, in the acquirement of further knowledge in relation to the causes, nature and treatment of that most universal and most destructive disease, pulmonary consumption.

This statement to be followed by a series of inquiries, formulated with explanatory remarks, so as to keep clearly in the minds of the practitioners of medicine, to whom such inquiries might be sent, the scope and purpose of the investigation, and that *facts* only should be reported, based on careful observation and experience.

Then to send copies of such paper to each of the other members of the Committee for such modification and additions as might be suggested by each, and upon the return of such amended copies to combine the valuable suggestions of all the members in one plan or proposition for report to this Conference, and for still further change by the Conference as might be deemed best. But few opportunities occurred for giving the subject attention, and short ones at that, but the more it was considered the more important the method became, the field of investigation seemed to lengthen and widen and the scope of inquiry broaden.

The magnitude of constructing a judicious plan for accomplishing the object desired was formidably realized.

How was he to present questions, at once concise and explicit, that should cover the etiology of pulmonary consumption in relation to heredity, to atmospheric conditions as to dryness or humidity, suspension of floating matter, organic or inorganic, rarity or density, temperature, altitude and ozone. Conditions, topographical and telluric. Conditions of society, demographical occupation, poverty, intemperance, social vices, hard labor, maternity, the question of communicability through organic contagia, etc.

He then felt that he ought, in justice to the importance of the results to be obtained, and also in justice to himself as in part a proposer of the scheme, to give the subject extended consideration as to time and study, and that decision or sentiment was the rock on which the contemplated project split. No time for such extended study had been allowed him.

He did not make these remarks as an apology for not reporting a matured plan as designated and desired. It was rather a conscientious explanation. For he could say positively and absolutely that he had been incessantly engaged in all the working hours, and also with much encroachment on the hours of sleep and rest since the meeting at Toronto, except when disabled physically and mentally by disease.

No one could regret more than himself the failure to bring before this Conference a matured plan for the purpose designed.

Upon motion, Dr. Fisher was excused and the committee continued.

Dr. Baker was asked to report upon "blank forms for uniform system of vital statistics," and stated that the announcement was an error—that at the Toronto meeting he had reported on that subject, and had expressed regret that it was so narrow, whereupon the whole subject of "vital statistics" had been assigned to him. Upon the topic announced for the meeting he had nothing new to report.

On motion, it was voted that Dr. Baker be granted further time to make a report on the subject of vital statistics.

Dr. Baker, of Michigan, moved, and it was voted: That the thanks of the Conference be given to Dr. Metcalf, of Indiana, for printing the proceedings of the last Conference, in 1886.

Dr. Probst, Secretary of the Ohio State Board, offered to print the proceedings of the present Conference on the same terms that they were printed last year.

On motion the offer of Dr. Probst was accepted

On motion of Dr. Probst it was voted: That an assessment of five dollars be made on each State Board of Health to defray the expenses of the Conference for the ensuing year

The Conference next proceeded to the election of officers, which resulted as follows:

For President, Dr. J. N. McCormack, of Kentucky.

For Secretary, Dr. C. A. Lindsley, of Connecticut.

THE NEXT PLACE OF MEETING.

Dr. Sharp, of Ohio, gave a cordial invitation to the Conference to hold its next meeting in Cincinnati of that State, and moved that it be held in June, on the first Tuesday, at the time of the meeting of the American Medical Association.

Dr. Hunt, of New Jersey, urgently opposed meeting at the same time and place of the meeting of any other association.

Dr. Lindsley, of Tennessee, advocated holding the meeting before the time appointed for the American Medical Association, but at the same place.

Dr. Sharp amended the motion by substituting Monday for Tuesday.

Dr Schenck moved to amend by substituting the Friday after the meeting of the association.

Dr. Hunt opposed the amendments and advocated meeting on the Friday before that of the Medical Association.

Dr. Reeve, of Wisconsin, moved that when this Conference adjourns, it be at the call of the President and Secretary.

Dr. Baker, of Michigan, strongly urged that the meeting be held in Cincinnati, and at the time the Medical Association met, for the distinct purpose of building up by the presence and influence of the Conference, the Hygienic Section of the Medical Association.

The President invited Dr. Hunt to take the chair. He then spoke emphatically in favor of holding the meetings of the Conference entirely independent of all other organizations.

After some further debate it was voted: That when this Conference adjourns it will meet at Cincinnati, Ohio, in May, 1888, on the Friday evening preceding the meeting of the American Medical Association.

Mr. W. D. Anderson addressed the Conference on the subject of celebrating the one hundredth anniversary of the Constitution of the United States and the four hundredth of the discovery of America by Columbus.

At the conclusion of his remarks it was voted: That this Conference heartily approve of the proposed Centennial celebration and extend its thanks to Mr. Anderson for his address.

No further business offering, the meeting adjourned.

INDIANA STATE BOARD OF HEALTH

INSTITUTED, NOV. 3, 1881

LIST OF PHYSICIANS.

Abbreviations—R., for regular; E., for eclectic; H., for homeopathic; P. M., for physio-medical; N. R., for not reported; D., for diploma; figures 3 and 10, for number of years' practice.

This list is furnished by County Health Officers, and any mistakes that occur in spelling names, or omissions, are attributable to them.

The names of County Health Officers are printed in capitals.

Adams County.

Name.	*Post Office.*	*School.*
Aspy, Hiram M	Geneva	R. 3
Boyers, J. S.	Decatur	R. D
Broadwell, Wilber	Berne	R. D
Coverdale, J. S	Decatur	R. D
Costello, Henry F	Decatur	R. D
Dorwin, T. T	Decatur	R. 3
Freeman, B. F	Decatur	R. D
Ford, A. C	Geneva	E. 3
Holloway, A. G.	Decatur	R. 3
Harper, J. L	Pl'nt Mills	R. 10
Houghton, A. K	Linn Grove	R. 3
Hill, J. C	Pl'nt Mills	P. M. 10
Hughes, Alexander	Monroe	P. M. 10
JELLEFF, C. A	Decatur	R. D
Kuntz, Christina	Berne	P. M. 10
McMillen, W. W. P.	Decatur	R. D
Meyer, Henry	Decatur	H. D
Mann, Jesse E	Decatur	D
Mann, N. D.	Decatur	D
Mendenhall, F. M	Berne	E. 3
Mentzer, S. E.	Monroe	R. D
Rainer, C. F	Monroe	R. 10
Ralston, S. G	Geneva	R. 3
Sprunger, Peter H	Berne	H. 10
Trout, D. G. M	Decatur	R. D
Thomas, P. B.	Decatur	R. D
Zimmerman, C. A.	Berne	R. 3

Regular, 18; Eclectic, 2; Homeopathic, 2; Physio-Medical, 3; Not Reported, 2.

Allen County.

Adams, Horace E	Woodburn	R. 10
Allen, Daniel M	Harlan	R. 10
Barteley, R. W	Fort Wayne	E. D
Barnett, W. W	Fort Wayne	R. D
Banks, C. F		R. D
Balcon, L		R. D
Bevier, Wm	Waterloo	E. D
Boswell, A. J	Fort Wayne	R. D
Brudi, G	New Haven	R. D
Buchman, A. P	Fort Wayne	R. D
Bilderback, J. W	Harlan	R. 10
Blade, Philip	Fort Wayne	E. 10
Bowen, Geo. W	Fort Wayne	H. D
Bruebach, G. F	Fort Wayne	R. D
Coombs, Jno. M	Hicksville, O	R. D
Cutshall, Geo. W	Arcola	R. D
Chambers, J. D	Fort Wayne	R. D
Connelley, W. A	Monroeville	R. D
Cosgrove, Frank K	Harlan	R. D
Chandler, Geo. E	Fort Wayne	H. D
DILLS, THOMAS J	Fort Wayne	R. D
Dinnen, Jas. M	Fort Wayne	R. D
Ferguson, W. T	Fort Wayne	R. D
Fruth, David O	Fort Wayne	R. D
Greenwell, F	Huntertown	R. D
Greenewalt, Geo. L	Fort Wayne	R. D
Gould, H. D	Fort Wayne	R. D
Guenther, J. W	Harlan	R. 10
Green, M. Frances	Fort Wayne	H. D
Gard, B	Fort Wayne	E. D
Gregg, Jas. S	Fort Wayne	R. D
Harris, L. P	Fort Wayne	H. D
Harris, Ella, Miss	Fort Wayne	H. D
Hathaway, Geo. W	Fort Wayne	R. D
Hathaway, Mary F	Fort Wayne	H. D
Hetrick, Jacob	Fort Wayne	R. D
Hersler, Geo. F	Fort Wayne	H. D
Houghton, L	Huntertown	R. D
Jones, J. H	Fort Wayne	N. R. D
Kesler, A. J	Fort Wayne	R. D
Knade, R. S	Fort Wayne	R. D
Kryder, Jno. L	Cedarville	R. D
Lipes, R. F	Heller's Corn's.	R. D
Laubach, A. J	Fort Wayne	R. D
Lamb, B. F	Fort Wayne	R. D
Lipes, U. S. G	Fort Wayne	R. D
Myers, Isaac N	Maples	R. D
Myers, Herschel S	Fort Wayne	R. D
Myers, Wm. H	Fort Wayne	R. D
Miller, Jas. E	Fort Wayne	R. D
Martin, Isaac W	Fort Wayne	R. D
Morrison, T. R	Heller's Corn's	R. D
Metchalf, Samuel C	Fort Wayne	R. D
McCausland, J. W	Fort Wayne	R. D
McCormick, T. H	Fort Wayne	R. D
McCoskey, Geo. W	Fort Wayne	R. D
McCullough, T. P	Fort Wayne	R. D
McCullough, H	Fort Wayne	R. D
McOscar, E. J	Fort Wayne	R. D
Murphy, Geo	Leo	R. D
Martz, Chris	Fort Wayne	H. D
Morgan, Joseph D	Fort Wayne	E. D
Meschang, C. F. C.	Fort Wayne	R. D
Nuhl, Lycurgus	New Haven	E. D
Omo, Jos. H	Harlan	R. D
Proegler, Carl	Fort Wayne	R. D
Porter, Miles F	Fort Wayne	R. D
Pozneer, Geo. W	Fort Wayne	R. D

Allen County—Continued.

Name.	*Post Office.*	*School.*
Polk, Elmer C	Fort Wayne	P. M. D
Prezinger, L. A	Fort Wayne	E. D
Rausch, A. J	Fort Wayne	R. 3
Ross, Geo. A	Fort Wayne	H. D
Rosenthal, Isaac M	Fort Wayne	R. D
Reed, Ezra L	Fort Wayne	R. 10
Ruhl, Wm. DeLa	Sheldon	R. D
Searles, Jos. D	Fort Wayne	N. R. 10
Smith, C. S	Fort Wayne	R. D
Smith, Jos. L	Hoagland	E. D
Stemen, C. B	Fort Wayne	R. D
Stemen, Geo. B	Fort Wayne	R. D
Seaton, Jno. R	Fort Wayne	R. 10
Shutt, L. C	Fort Wayne	R. D
Siver, E. L	Fort Wayne	R. D
Shutt, Jno. M	Harlan	N. R. 2
Swift, C. F	Harlan	R. D
Sledd, Samuel D	Nine Mile	R. D
Sweringen, Hirman M	Fort Wayne	R. D
Sturgis, Lewis F	Fort Wayne	R. D
Shultz, Jos. E	Fort Wayne	R. D
Shultz, Chas	Fort Wayne	R. D
Shultz, John A	Fort Wayne	H. D
Soper, Augustus	Fort Wayne	R. D
Thayer, Fred	Fort Wayne	R. D
Van Buskirk, A. E	Fort Wayne	R. D
Virgil, Thos. L	Fort Wayne	R. D
Whery, Wm. P	Fort Wayne	R. D
Woodworth, B. S	Fort Wayne	R. D
Williamson, M. F	New Haven	R. D
Wheelock, K. K	Fort Wayne	R. D
Worley, Geo. N	Poe	R. D
Young, Jno. M	Fort Wayne	R. D

Regular, 79; Eclectic, 8; Homeopathic, 10; Physio-Medical, 1; not reported, 3.

Bartholomew County.

ARWINE, JOHN S	Columbus	R. 10
Allen, Wm. H	Waymansville	R. 10
Butler, Wm. H	Columbus	R. D
Biddinger, S. W	Waynesburg	E. 10
Banker, A. J	Columbus	R. D
Beck, Wm. H.	Hartsville	R. D
Barrett, S. J	Columbus	R. 10
Butler, Chas. H.	Clifford	R. 10
Banks, Wm. H	Waymansville	R. 10
Bernard, Geo. W.	Taylorsville	H. D
Carmichael, Wm. T	Walesboro	P. M. D
Clark, Isaac S	Columbus	R. 10
Cosby, Geo. O.	Burnsville	R. D
Davis, Joseph H	Azalia	R. 10
Dickman, Fred	Hope	H. 10
Elrod, Moses N.	Hartsville	R. D
Falk, Fred	Columbus	R. 3
Francis, Edward T	Columbus	R. D
Fogle, Elias T	Newbern	E. D
Galloway, C. E	Hartsville	R. D
Hudson, J. B	Columbus	E. D
Howe, Orwin E.	Taylorsville	R. D
Hawser, Z. H	Columbus	R. D
Hawley, Kourt D.	Elizabethtown	R. D
Holder, R. E	South Bethany	R. D
Kincaid, Simpson F	Taylorsville	E. D
Kennedy, J. Z	Taylorsville	R. D
Lawrence, Wm. W	Jonesville	E. 3
Linton, S. M	Columbus	R. 10
Moore, Charles A.	Columbus	E. D
Mennett, Overton H	Jonesville	R. D
Morris, Samuel H	Columbus	R. 3
Mulvey, J. W.	Jonesville	R. D
McLeod, A. J.	Columbus	R. D
McCoy, Geo. T	Columbus	R. D
Norton, F. D	Petersville	R. D
Newton, W. T	Hope	R. D
Rice, Alfred	Columbus	H. D
Ro pe, R. H	Columbus	R. D
Richards, F. B	Taylorsville	R. 10
Regennas, Eug. E	Hope	R. D
Roesgen, J. P.	Columbus	R. 10
Shane, Thos. A.	Columbus	H. D
Smalley, J. K.	Hartsville	R. D
Stapp, Simeon	Hope	R. 10
Smith, Theopholis E	Columbus	R. 3
Thompson, David A	Elizabethtown	R. D
Tobias, John M	Hartsville	E. D
Voris, Samuel M	Columbus	R. D
Weisenberg, Jno	Waymansville	R. 10
Wright, John F.	Columbus	R. D
Wray, Hardy	Hartsville	R. 10

Regulars, 40; Eclectic, 7; Homeopathic, 4; Physio-Medical, 1.

Benton County.

Boice, A. C	Earl Park	R. 3
Bristow, Jasper	Oxford	R. 3
Beard, J. M. G	Ambia	R. D
Barlocher, Finton	Earl Park	R. D
Baker, Geo. W	Oxford	R. 10
Christley, J. B	Boswell	R. 10
Cook, Clark	Fowler	R. D
Cook, Mathew D	Oxford	N. R. 10
Fall, Charles W	Templeton	R. 3
Green, John W	Boswell	R. 3
Green, Nellie E	Fowler	R. 3
Gray, James A	Otterbein	R. D
Gray, Wm. H	Wadena	E. D
Hunter, Abram F	Raub	E. D
Hunt, Benham	Talbot	E. D
Kinney, John Fenton	Oxford	E. D
Kolb, Jonathan	Oxford	R. 10
MAVITY, JAMES S	Fowler	R. D
McConnell, Henry C	Oxford	E. D
Purdy, A. J	Fowler	R. D
Roberts, Samuel R	Fowler	R. 10
Rodman, James M	Fowler	R. 10
Thompson, Thomas J.	Otterbein	R. D
Wells, Allen W	Swannington	R. D
Whitcomb, James H	Boswell	R. 3

Regular, 19; Eclectic, 5; Not Reported, 1.

Blackford County.

Name.	*Post Office.*	*School.*
Adams, Mary E.	Hartford City.	H. D
Alexander, J. E	Hartford City.	H. 10
Caldwell, David C	Millgrove.	E. 10
Clousen, N. D	Hartford City.	R. 10
DAVISSON, H. C	Hartford City.	R. D
Drayer, P.	Hartford City.	R. D
Downey, H. J.	Hartford City.	R. D
Hardin, Alfred	Hartf'd City.	P.-M. D
Harrold, J. R.	Roll	R. D
Landon, L. C.	Priam	R. 10
Mason, C. R	Hartford City.	R. D
McFarland, J. E	Millgrove.	E. 10
Morrison, J. A	Montpelier	R. D
Sage, John W	Hartford City.	E. D
Sellers, John	Montpelier	R. 10
Ransom, J. A.	Montpelier	R. D
Wilt, W. W	Montpelier	R. D
White, Robert B	Montpelier	H. 10
Wheeler, Wm. H	Hartford City.	H. 10

Regular, 11; Eclectic, 2; Homeopathic, 4.

Boone County.

Austin, Frank H	Jamestown	E. D
Ball, Joseph P	Lebanon	E. D
Bonnell, M. H	Lebanon	R. D
Bennington, A. M	Lebanon	R. 3
Bonnell, Thos. A	New Brunswick	R. 10
Banta, Samuel Y	Jamestown	R. 3
Brandenburgh, T. D	Thorntown	P. M. D
Burk, George L	Jamestown	R. 10
Brown, Eli L	Thorntown	E. D
Burk, Tighlman G	Jamestown	R. 3
Boyd, John M	Thorntown	R. D
Coons, Henry N	Lebanon	H. D
Cotton, H. L	Zionsville	R. D
Clark, A. J	Zionsville	R. D
Curryer, Wm. F	Thorntown	P. M. D
Deacon, A. L	Elizaville	R. D
Dunnington, A. J	Thorntown	R. 10
Davis, D B	Thorntown	R. 10
Duzan, George N	Zionsville	R. D
Everett, W. E	White Lick	R. D
Finch, A. M	Jamestown	R. 3
Hardy, John S	Whitestown	R. D
Hank, Jas. R	Thorntown	R. 3
Heady, Wm. S	Jamestown	R. D
Hamilton, J. A	Advance	R. 10
Harrison, Thos. H	Lebanon	R. D
Jones, Robert E	Lebanon	R. D
Jordan, Thos. W	Whitelick	R. D
Jones, A. B	Lebanon	R. D
Kane, John M	Rosston	R. D
Kellogg, Norman P	Lebanon	E. D
Lane, Thos. H	Lebanon	R. D
Leach, Jas. R	New Brunswick	R. 3
Loder, Chas. C	Advance	R. D
Loder, Jennie C	Advance	R. 10
McGee, D	Big Spring	P. M. D
MILLER, A. O	Lebanon	R. D
Myers, John M	Terhune	R. D
O'Rear, T. H	Jamestown	R. D
Porter, A. G	Lebanon	R. D
Porter, John R	Lebanon	R. 3
Reagan, Jesse	Rees Mills	R. 10
Roberts, Joseph D	Whitestown	E. D
Roberts, I. Shelby	Whitestown	E. D
Rose, Madison H	Thorntown	R. D
Randolph, Jas. M		R. D
Smith, Carter H	Lebanon	R. D
Scull, David C	Lebanon	R. 10
Steelsmith, John M	Terhune	R. D
Silvey, H	Hazelrigg	R. 10
Selman, J. W		R. D
Schwin, E. E		R. D
Turner, Thos. S	Milledgeville	R. D
Trowbridge, Rees	Lebanon	R. D
Umberhine, Chas. D	Rees Mills	R. D
Utter, Joseph A	Thorntown	E. D
Vannuyse, D. H	Lebanon	R. D
Vanarsdall, Garrett M	Jamestown	R. D
Ware, Wm. H	Dover	R. 10
White, Ambrose F	Zionsville	R. 10
Whitenach, John H	Zionsville	R. D
Walker, David R	Rees Mills	R. D
Worley, Orlin	Rosston	P. M. D

Regular, 51; Eclectic, 7; Physio-Medico, 5; Homeopathic, 1.

Brown County.

Browning, Nathan	Needmore	R. 3
CAMPBELL, JAS. B.	Bean Blossom	R. 10
Fritch, Joseph	Needmore	E. 10
Fleener, Joseph N	Needmore	R. 10
Genolin, John F	Nashville	R. D
Griffitt, A. S.	Story	E. D
Leonard, John H	Elkensville	R. 3
Moser, James P.	Spearsville	R. D
Mossep, Stephen	Schooner	E. 3
Ralphy, Alferd J	Nashville	R. D
Ross, John C	Belmont	R. 3
Wilson, S. C.	Pike's Peak	P. M. 10

Regular, 8; Eclectic, 3; Physio-Medical, 1.

Carroll County.

Name.	*Post Office.*	*School.*	*Name.*	*Post Office.*	*School.*
Angell, Charles	Pittsburgh	R. D	Loop, Wm. M.	Deer Creek	R. D
Angell, Charles E.	Delphi	R. D	Lyons, F. P.	Carroll	R. D
Armstrong, F. G	Camden	R. 10	Lyons, James H	Burlington	R. D
Armstrong, E. W.	Camden	R. D	Moore, A. G	Carroll	R. 10
Beck, E. W. H	Delphi	R. D	Morrow, James L.	Delphi	R. D
Blanchard, J. R.	Delphi	R. D	Nice, F. P.	Deer Creek	E. 3
Bradfield, B. D	Deer Creek	R. D	Scholl, Charles E	Camden	R. D
Camp, Charles	Camden	R. D	Sharrer, W. F.	Delphi	R. D
Carter, J. D.	Camdem	— 10	Schultz, F. A	Delphi	E. D
Chittick, Charles	Burlington	R. D	Schultz, J. J	Delphi	E. D
Conway, P. W.	Ockley	R. D	Smith, Wickliffe	Delphi	R. D
Cook, Andrew J	Flora	E. D	Snyder, Benj. F	Camden	R. D
Cromer, J. R	Flora	E. D	Souder, C. L	Burrows	R. D
Clymer, J. T	Loco	E. 3	Stewart, J. W.	Rockfield	R. D
Doane, George M.	Burlington	R. 10	WALKER, E.	Delphi	E. D
Greer, Joshua G	Patton	P. M. 10	Wirt, John N	Flora	E. D
Hall, J. D.	Camden	R. D	Wright, John A	Burlington	E. D
Kennard, J. L.	Yeoman	R. D	Wilson, Rob't I	Lockport	R. 10

Regular, 24; Eclectic, 10; Not Reported, 10.

Cass County.

Baldwin, Thornburg	Galveston	R. 10	Landrey, S. F	Logansport	R. D
Ballard, J. W	Logansport	R. D	Lester, H. D	Lincoln	E. D
Banta, H. J	Logansport	R. D	Loop, Z. U	Galveston	R. D
Beall, Jno. S	Galveston	E. D	Lybrook, W. E	Young America	R. D
Bell, W. H	Logansport	R. D	Lymans, J. B.	Logansport	10
Bellew, Peter M	Logansport	E. 10	Milion, David	Royal Center	E. D
Busjahm, F. A	Logansport	R. D	Morris, Jas. H	Metea	E. 10
Cady, N. W	Logansport	R. D	Neff, J. N	Walton	R. D
Carpenter, L. W	Logansport	H. D	Parks, Chas. D	Young America	R. D
Chord, A. M	Logansport	E. D	Parish, Harrison	Montez	R. 10
Clevenger, B. S	Logansport	E. 10	Pickett, Cyrus	Pine	E. D
Coleman, A.	Logansport	R. D	Pickett, John J.	Dow	E. 3
Downey, Jasper H	Logansport	E. D	Powell, Jehu Z	Logansport	R. D
Dutchess, C. P	Walton	R. D	Quick, L. L	New Waverly	R. D
Eckert, D. H	Nebo	E. D	Quick, R. H	New Waverly	R. D
Fitch, G. N	Logansport	R. D	Rolshausen, Eleanor	Logansport	R. D
Fouts, D. N	Royal Centre	R. 10	Shultz, Jno. B	Logansport	E. D
Hallinan, Joseph	Logansport	R. D	Shultz, Jno. H	Logansport	E. D
Hattery, H. D	Logansport	R. D	Simmons, L. H	Crittenden	R. 3
Herrmann, John	Logansport	R. D	Skinner, H. D	New Waverly	R. D
Henry, L. W	Burnettsville	R. 10	Sterrett, Jas. E	Logansport	R. D
Hunter, W. B	Galveston	R. D	Stevens, B. C	Logansport	R. D
Jordan, M. A	Logansport	E. D	Stalze, J	Logansport	E. D
Justice, Jas. M	Logansport	R. D	Talbott, J. H	Logansport	R. D
La Rose, N. J	Altoner	E. D	Thomas, C. L	Logansport	R. D

Regular, 32; Eclectic, 16; Homeopathic, 1; Not Reported, 1.

Clark County.

Adair, Samuel L	New Wash'gt'n.	R. D	McClure, Sidney C	Jeffersonville	R. D
Allhands, David S	New Wash'gt'n.	E. 3	McClure, Jesse D.	Jeffersonville	R. D
Bassard, Clemons	Jeffersonville	H. D	McBride, Charles B	Jeffersonville	R. D
Beckwith, Loa W	Jeffersonville	R. D	McCormick, J. C	Jeffersonville	R. D
Bryant, Allen	Jeffersonville	10	McGlenn, Wm. P.	Henryville	R. D
Brunner, Emory W	Jeffersonville	R. D	New, Richard B		E. D
Brunner, Jacob	Uttica	R. 10	Oglesby, J. W.	Bethlehem	R. D
Casby, Mary	Jeffersonville	10	Poindexter, John M	Utica	R. D
Coombs, David H.	Charlestown	R. D	Peyton, David C	Jeffersonville	R. D
Covert, Geo. M	Sellersburg	R. D	Reynolds, James M	Memphis	R. D
Carr, Francis	Oregon	R. 10	Russell, James R.		R. D
Duerson, Wm. T	Bethlehem	R. 3	Ruddell, Isaac N.	Jeffersonville	R. D
FOUTS, W. D.	Jeffersonville	R. 10	Sanderson, Thomas	Charleston	R. D
Field, Nathaniel	Jeffersonville	R D	Stalker, Benj. T	New Provid'ce	R. D
Eerguson, Henry M	Henryville	R. D	Sheets, W. H	Jeffersonville	R. D
Field, Davis L	Jeffersonville	R. D	Scull, Benj. F	Bethlehem	R. 10
Graham, Thomas A	Jeffersonville	R. D	Taggart, Samuel C	Charleston	R. D
Haymaker, Geo. W.	Charlestown	R. D	Taggart, John F	Owen	R. D
Hauss, Augustus P.	Sellersburg	E. D	Veasey, T. Reed	Charleston	R. D
Jones, Cadwallader	New Wash'gt'n.	E. D	Watkins, E. M	Jeffersonville	R. D
Klein, John W	Sellersburg	R. D	Wisner, W. E.	Henryville	R. D
Loomis, John	Jeffersonville	H. 10	Work, Will F.	Charleston	E. D
McCoy, Wm. N	Jeffersonville	R. D	Williams, Louis L	Utica	R. D
McKinney, Martin V	Jeffersonville	R. D	Wills, Francis M	Sellersburg	R. D
McClure, David	Jeffersonville	R. 10	Zerner, Joseph	Jeffersonville	R. D

Regular, 41; Eclectic, 5; Homeopathic, 2; not reported, 2.

Clay County.

Name.	*Post Office.*	*School.*
Allen, Hiram P.	Bowling Green	R. 3
Brouillette, S. L	Clay City	R. D
Bartholomew, N. B.	Poland	R. 3
Brown, W. B	Clay City	R. 10
Byers, L. S	Staunton	R. 3
Berne, S. P	Clay City	R. D
Black, S. D	Brazil.	R. D
Briley, A	Coffee.	R. 10
Carney, J. W	Staunton	R. 10
Cushman, D. W	Cloverland	R. D
Chamberlain, W. F.	Poland	R. D
Chamberlain, W. L.	Poland	R. 3
Culbertson, R. H	Brazil.	R. D
Elliott, T. A	Poland	R. D
Freed, M. A	Clay City	R. D
Finley, G. W	Harmony	R. 3
Gerstinyer, J	Brazil.	R. 3
Gantz, R	Saline City	R. 10
Glasgo, T. A	Brazil.	R. 3
Gifford, J. C	Brazil.	R. D
Hawkins, W. B.	Brazil.	R. 10
Hale, L. A	Martz.	R. 10
Holmes, B. F	Asherville	R. D
James, O	Cory	R. D
Leachman, J. M	Bowling Green	R. 10
Modesitt, J. A	Cory	R. D
Morton, W. C. P	Cardonia	R. 3
Moss, J. R	Ashboro	R. D
McCollough, F. B	Staunton	R. D
McCollum, R	Bowling Green	R. D
Nall, A. H	Hoosierville	R. 10
Phipps, J. J	Clay City	R. 10
Pell, Geo. M	Carbon	R. D
Price, J. M	Brazil.	R. 10
Rundell, A. E	Center Point	R. D
Smith, J. F	Brazil.	R. D
Spelbring, B. F.	Saline City	E. 3
Stone, W. R.	Poland	R. 10
Siddons, J. O	Harmony	R. 10
Swinehart, M. H	Asherville	R. 10
Siner, F. M	Harmony.	R. D
Tulley, A. F	Brazil.	R. D
THORNTON, F. G	Knightsville	R. 10
Talbott, E. P	Bowling Green	R. D
Vansandt, W. H	Carbon	R. D
Williams, John	Bow'g Green	P. M. 10
Woolf, C	Clay City	R. D
Williams, J. A	Clay City	R. D
Willigman, C. H	Clay City	R. D
Zook, D.	Clay City	R. D

Regular, 48; Eclectic, 1; Physio-Medical, 1.

Clinton County.

Adams, James M. C	Frankfort	R. D
Abstom, Jesse M	Michigantown	R. D
Brown, Geo. W	Frankfort	R. D
Bogan, Elisha W	Kirklin.	R. D
Bowers, Valentine	Michigantown	R. D
Bonham, J	Edna Mills	H. D
Coon, Hiram J	Colfax	R. D
Canfield, Moses S	Frankfort	E. D
Cooper, William E	Hillisburg	P.-M. D
Chittick, Andrew J	Hillisburg	R. D
Cox, T. B	Frankfort	R. D
Douglass, Isaac W	Michigantown	R. D
Davis, Newton C	Frankfort	H. D
Douglass, Samuel	Killmore	R. 10
Earhart, Isaac S	Mulberry.	R. D
Fisher, Samuel B	Rossville	E. 10
Fisher, John J	Rossville	E. D
Fall, William D	Kirklin.	R. D
Hornaday, William H	Forest	R. D
Huntinger, Eli	Frankfort	H. D
Knapp, S. O	Frankfort	R. D
Koons, Monroe P	Mulberry.	R. R
Loftin, John	Frankfort	R. D
Lovell, Charles H	Kirklin.	E. D
Milburn, Robert C	Colfax	R. 3
Milburn, Joseph E	Colfax	R. 10
Morrison, Owen A. J	Middlefork	R. D
Martin, M. L	Forest	R. 10
McMurray, James S	Frankfort	R. D
Palmer, R. F	Frankfort	R. D
Parker, Joseph	Colfax	R. D
Randall, Wm. B	Hillisburg	R. 10
Sims, Stephen B	Frankfort	R. D
Schwinn, Evan E	Kirklin	R. D
SAYLER, A. J.	Frankfort	E. D
Smith, Wm. G	Scircleville	R. 3
Seawright, W. P	Moran	R. D
Strange, William.	Frankfort	R. 10
Shaw, James E	Rossville	R. D
Seigler, John N.	Sedalia	R. 3
Tharp, Levi	Boyerston	R. 3
Vale, H. W	Colfax	R. D
Wise, James B	Frankfort	H. D
Youkey, Wm. P	Rossville	R. D
Youndt, Albert W	Mulberry.	R. D

Regular, 35; Eclectic, 5; Homeopathic, 4; Physio-Medical, 1.

Crawford County.

Bird, William C	English	R. 10
Baylor, Geo. W.	Milltown	R. D
Bullington, Wm. H.	West Fork	R. 10
Brown, Sylvester L.	Eckerty	R. 10
Bobbitt, John H	Eckerty	R. 10
Byrn, Spencer	Marengo	R. D
Brown, John F.	Mifflin	R. 10
Courtney, Thomas	Riceville	R. 3
Cole, Wm. A	English	R. D
Chambers, S. B. F	Marengo	R. 10
Gobbel, F. R	Grantsburg	R. 3
Gibbs, John H	Milltown	R. D
Holland, William	Milltown	R. 10
Hammond, John M	English	R. D
Hammond, Ham. C.	English	R. D
Hazlewood, John	Eckerty	R. D
Hollcroft, W. R.	Alton	R. 10
Hawn, John A	Leavenworth	R. D
Knight, John B.	Mt. Prospect	R. 10
Kimes, Daniel	Leavenworth	R. 10
King, Newton W.	Tazwell.	R. 10
Kelso, John S. B	Leavenworth	R. 10
Luckett, Charles D.	Eckerty	R. D
Merriles, Wm. M.	Leavenworth	H. 10
McCartney, Jos. C	West Fork	R. D
Murphy, Lewis H.	Alton	R. D
SETSER, HENRY H.	Leavenworth	R. D
Stewart, Lewis B	Marengo	H. 10
Stewart, Oscar H	Marengo	H. D
Walls, John W	Eckerty	R. 10
Weathers, John F	Marengo	R. D

Regular, 27; Homeopathic, 3.

Daviess County.

Name.	*Post Office.*	*School.*
Avery, Wm. R	Washington	R. D
Anderson, Wm. B	Washington	R. D
Ashcraft, J. C	Montgomery	R. D
Bigham, A. W	Montgomery	R. D
Burris, Levi	Alfordsville	H. D
Bonham, A. N	Washington	H. D
Burdick, L	Washington	R. D
Clark, J. W	Glendale	R. D
Carter, D. R	Epsom	R. 10
Culmer, S	Epsom	R. 10
Dearmin, John	Odon	R. D
Eads, T. L	Washington	R. 3
Faith, A. H	Plainsville	R. D
Fitzgibbon, John	Washington	R. D
Gers, H	Washington	R. D
Horrall, W. A	Washington	E. 10
Harned, F. M	Washington	R. D
Hobbs, W. P	Raglesville	R. 10
Killion, J. N	Cornettsville	P.-M. 10
Lane, A. K	Odon	R. 10
Moore, J. L	Washington	R. D
Millis, E. D	Plainville	R. 10
McKittrick, O. H	Plainville	R. 10
McPherson, S. L	Montgomery	R. D
Marlow, J. W	Raglesville	R. D
Peck, S. W	Washington	R. D
Parks, J. F	Washington	R. D
Ragsdale, M. H	Glendale	R. 10
Scudder, Chas	Washington	R. D
Scudder, C. P	Washington	R. D
Scudder, J. A	Washington	R. D
Smith, D. J	Odon	R. D
Sears, Barton	Odon	R. 10
Scanlon, M	Washington	R. D
Sears, T. M	Elnora	R. D
Scott, J. T	Elnora	R. D
STROUS, W. H. H	Washington	H. 10
Tolliver, M. P	Elnora	R. 10
Willsford, G. W	Glendale	R. D
Wolfe, H	Washington	R. D
Walls, W. B	Alfordsville	R. 10
Winton, C. F	Washington	R. D

Regular, 36; Eclectic, 1; Homeopathic, 3; Physio-Medical, 1.

Dearborn County.

Barkley, T. Marshal	Farmers Retre't	R. D
Bond, R. C	Aurora	R. D
Bond, E. P	Lawrenceburgh	R. 10
Bond, Marc. L	Aurora	R. D
Bowers, A. T	Moore's Hill	R. D
Collins, Samuel H	Lawrenceburgh	R. D
Chase, Harry Gridley		R. D
Craig, F. E	Lawrenceburgh	R. 10
Chamberlain, ——	Lawrenceburgh	R. 10
Carey, Charles H.		R. 3
Culley, Josephus H		— D
Daughters, A. H	Hoore's Hill	R. 10
Elfer, John.		R. D
Fermier, Pierre	Weisburgh	R. D
Freeland, J. L	Sunman	R. D
Gatch, James D	Lawrenceburgh	R. D
Grahn, Edward G		———
Henry, W. C	Aurora	R. D
Hatfeld, Melissa M.		H. D
Hayward, Milton P	Lawrenceburgh	H. D
Haase, John H	Manchester.	R. D
Koetbein, Louise A		R. D
Kirkpatrick, Jas. B		R. D
Kyle, Thomas M	Aurora	R. D
Lamb, James.	Aurora	R. D
Lowden, L. A	Wilmington	R. D
Lazenby, ——	Bright	R. 3
Liddle, John B.	Bright	R. D
Lord, Thomas J	Dillsborough	E. D
Miller, Chas. B.	Lawrenceburgh	R. D
Owens, R. J		R. D
Rectanus, Fred.	Aurora	R. D
Ratcliff, ——	New Alsace.	R. 3
Smith, Edwin	Aurora	H. D
Sutton, H. H	Aurora	R. D
Sale, F. H	Dillsborough	R. D
Sale, J. H.	Dillsborough	R. D
Swales, W. H, Sr	Logan.	R. D
Swales, W. H., Jr	Logan	R. D
Thomas, M. L		E. D
Thomas, Rolla L.		E. D
Vincent, Henry C	Guilford	R. D
Weaver, Samuel M.	Dillsborough	E. D
WALTER, C. G	Lawrenceburgh	R. 10
Willette, Wm. F. H		R. D

Regulars, 38; Eclectic, 4; Homœpathic, 3; not reported, 2.

Decatur County.

Alexander, Jno. H	Milford	R. D
Crawford, Geo	Milford	R. D
Cain, Cornelius.	Clarksburg	R. 10
Clark, Thomas J	Letts Corner	E. D
Covert, C. A	Greensburg.	R. D
Bracken, Wm.	Greensburg.	R. 10
Bracken, J. B.	Greensburg.	R. 10
Beal, C. M	Clarksburg	R. D
Bunker, L. C	Greensburg.	E. D
Burroughs, J. P	Westport	R. 10
Biddinger, S. W	Waynesburg	R. 10
Butler, Wm. G	Adams	H. D
Baily, Alvin L	St. Paul.	R. D
Daily, F. M	Melhousen	R. 10
DePew, R. J	St. Paul.	R. D
Falconbury, M. G	Greensburg.	E. 10
Godfrey, Geo. W	Forest Hill	R. 3
Goff, Wesley		— 10
Gullifer, Thos. B	Greensburg.	H. D
Hitt, J. Y.	Greensburg.	R. D
Howard, F. M	St. Paul.	R. D
Howard, J. W	St. Paul.	R. 3
Hitt, L. B.	Greensburg.	R. D
Hause, Wm	Westport	E. D
Hicks, Jno. C	Napoleon	P. M. D
Johnston, Thos	Greensburg.	R. D
Jerman, Lowda.	Napoleon.	R. D
McGuire, Samuel.	Greensburg.	H. 10
Miller, T. E. F	Miller.	H. D
McCoy, W. A	Sardinia	R. D
Parker, J. W	Adams	R. 10
Pennington, Eli	NewPennington	R. 10
Riley, W. F.	Sardinia	R. D
Riley, John H	Sardinia	R. D
Reamy, A. S	Greensburg.	R. D
Thomas, R. M	Greensburg.	R. D
Tevis, J. L	St. Paul.	R. 10
Tingley, W. S.	Greensburg.	R. D
Sudeker, F. H	New Point	R. 3
Smith, John L	Clarksburg	R. D
SCOBEY, D. T	Greensburg.	R. D
Schofield, W	Hains City	R. D
Surm, E. B	Greensburg.	R. 10
Stapp, Simeon	Hope	R. 10
Southworth, A	Greensburg.	H. D
Vest, M. C	Forest Hill	R. 3
Wright, S. V	Greensburg.	R. D

Regular, 36; Eclectic, 4; Homœopathic, 5; Physio-Medical, 1; not reported, 1.

Dekalb County.

Names.	*Post Office.*	*School.*	
Allen, Wm. S	Auburn	R.	10
Barnett, Joseph S	Butler	R.	D
Bennett, Joseph B	Butler	E.	D
Bevier, Wm	Waterloo	E.	D
Bolan, Milton J	Butler	R.	10
BOWMAN, H. W	St. Joe	R.	D
Broughton, Frank	Waterloo	R.	D
Brunson, Vincent C	Newville	R.	D
Carpender, Wm. P	Butler	R.	D
Casebeer, Jacob B	Auburn	R.	D
Chamberlain, Jas. N	Waterloo	R.	D
Cassel, B. G	Corunna	R.	10
Darby, A. Byron	Waterloo	E.	D
Emanuel, Gerry E	Spencerville	R.	D
Emanuel, Jonas	Spencerville	R.	D
Fanning, Fred. W	Butler	R.	D
Ford, Joseph H	Auburn	R.	10
Farrington, A. S	Waterloo	E.	10
Greenewald, Marquis	Auburn Junct	R.	10
Hughes, Jas. W	Waterloo		10
Hull, Henry H	Newville	R.	10
Hull, Jacob	St. Joe	E.	D
Keneswick, Jos. D	Butler	R.	D
Kester, Alonzo A	Garrett	H.	3
Lewis, Jas. W	Auburn	R.	D
Lilly, Harrison	Butler	H.	D
Matheny, Timothy G	Auburn	R.	D
Mercer, Wm. M	Corunna	R.	D
Miller, Jonathan	Butler	R.	10
Nusbaum, W. H	Corunna	R.	D
Raub, Ephraim D	Auburn	R.	3
Rudolph, Oswald F	Fairfield Center	R.	D
Sargent, Theo. C	Garrett	R.	D
Sebring, David A	Auburn	R.	10
Snyder, Fairfield	Corunna	R.	D
Shepherd, Z. W	Waterloo	H.	D
Sheffer, Barton S	St. Joe	R.	D
Stuart, Thos. H	Garrett	E.	D
Swartz, David J	Auburn	R.	D
Swartz, Vesta M	Auburn	R.	D
Thompson, John F	Garrett	R.	D
Williams, L. D	Butler	E.	D
Wood, Fred. B	Garrett	R.	D

Regular. 31; Homœopathic, 3; Eclectic, 7; not reported. 1.

Delaware County.

Ames, George F	Eaton	R.	D
Armitage, David R	Muncie	R.	D
Bowles, Thomas J	Muncie	R.	D
BRADBURY, A. B.	Muncie	R.	D
Boyden, Wilber J	Muncie	R.	D
Bunch, Robert A	DeSoto	E.	D
Baird, John V	Albany	E.	3
Cottrell, David W	Muncie	R.	10
Comstock, John S. D.	Cowan	R.	10
Clemens, Wm. D	New Corner	E.	10
Cornelius, Wm. W	Daleville	E.	10
Downey, Jonathan R.	Yorktown	R.	D
Day, Benjamin F.	Stout	R.	D
Driscoll, William E	Cowan	R.	D
Eastus, William T	Wheeling	R.	D
Good, Alonzo H	Selma	R.	10
Green, George R	Muncie	R.	D
Hayden, John H	Stout	P.-M.	D
Hastings, Seth G	Muncie	H.	D
James, Milton	Muncie	R.	D
Julian, James F	New Corner	E.	D
Kennedy, Evander C.	Muncie,	R.	10
Kemper, Gen. W. H	Muncie	R.	D
Lefavor, Joseph	Albany	R.	3
Martin, John S	Muncie	H.	D
Mitchell, Harvey	Muncie	R.	10
Murray, Alfred L	Eaton	R.	10
Murray, Albert P	Albany	R.	D
Marshall, Ruben	Cowan	R.	D
Marsh, Henry M	Muncie	H.	D
Mausey, David O.	New Corner	R.	D
McCrillis, Charles C	Muncie	R.	3
Miller, Elizabeth.	Muncie	H.	D
Phinney, Arthur J	Muncie	H.	D
Puckett, Elisha J	Muncie	R.	D
Payton, Lewis	Muncie	P.-M.	D
Quick, John C	Muncie	P.-M.	D
Rutledge, Elija D	New Burlingt'n.	E.	3
Ricks, Martin W	Muncie	P.-M.	D
Ross, John C	Muncie	E.	3
Reasoner, Osmer J	Shidler	R.	D
Rogers, William R	Shidler	R.	10
Shields, Edgar A	Muncie	R.	D
Spurgeon, William A.	Muncie	P.-M.	D
Shaub, Daniel	Muncie	N. R	D
Snell, Solomon R.	Muncie	E.	10
Snodgrass, Benj. D	Cammack	P.-M.	D
Smith, Charles W	Selma	R.	D
Skiff, Clark	Selma	R.	10
Shively, David M	Yorktown	P.-M.	D
Shidler, Joseph K	Muncie	E.	10
Summers, Henry C	Daleville	R.	10
Trobridge, David D.	Stout	E.	10
Tuttle, John R	Wheeling	R.	3
Winans, Henry M	Muncie	R.	D

Regular, 31; Eclectic, 8; Homeopathic, 5; Physio-Medical, 7; not reported, 1.

Dubois County.

Name.	*Post Office.*	*School*
Clifford, Jasper	Holland	E. D
Coble, Peter	Dubois	R. 3
Daniel, David H		N. R. D
DeBruler, O. E	Ireland	R. D
DeMotte, W. M	Haysville.	R. D
Faulkner, Joseph	Birdseye.	N. R. 10
Glezen, E. A	Ireland.	R. 10
Gray, O. B	Schnellville	N. R. 10
Hamilton, John H	Kyana	E. D
Hawkins, E. F	Huntingburg	E. 10
Hancock, Charles F	Jasper	R. D
Hermanni, W. H	Schnellville	H. D
Hutchinson, R. H		R. D
Hunter, Walter H	Portersville	R. 3
Isham, John H	Birdseye	R. D
Johnson, John R	Celestine	E. 3
Kempf, Paul H	Ferdinand	R. D
KEMPF, EDW. J	Jasper	R. D
Line, Wm. A	Hillham.	N. R. 10
Lukemeyer, E. G	Huntingburg	R. D
McMahan, W. R	Huntingburg	R. D
Montgomery, G. B	Huntingburg	R. D
Newland, C. W		R. D
Parr, G. L	Ireland	R. D
Rust, John F	Holland	R. 10
Rust, Wm. H	Holland	R. D
Sabin, Almer L		R. D
Salb, John Paul	Jasper	R. 10
Scheliha, P. W. V	Huntingburg	E. D
Schriefer, John H	St. Anthony	R. 3
Schwartz, C. W	Huntingburg	R. D
Stephenson, Edward	Jasper	R. 10
Stork, Henry W	Holland	R. D
Smith, James	Birdseye	R. 3
Venneman, R. T	Ferdinand	R. D
Walker, George	Ellsworth	N. R. 10
Wertz, Toliver	Jasper	H. D
Williams, J. A		R. D
Williams, G. P	Huntingburg	R. 10
Wildrip, H. L	Dubois	N. R. 10
Wittinghill, B. F		N. R. 10
Woelker, Chas	Huntingburg	N. R. 10

Regular, 27; Eclectic, 5; Homœopathic, 2; Not Reported, 8.

Elkhart County.

Aitkin, F. M	Bristol	R. D
Aldrich, Chas. J	Middlebury	R. D
Baker, D. W	Benton	R. 10
Barbour, Julius E	Bristol	H. D
Baumgartner, C. C	Elkhart	N. R. 10
Beaty, Marshall	Elkhart	R. D
Benham, F. A	Elkhart	H. D
Bower, Chas. C	Bristol	R. D
Bowman, Wm. E	Elkhart	R. D
Bowser, John M	Nappanee	R. D
Cassel, Elizabeth	Elkhart	R. D
Clark, Stephen T	Elkhart	R. D
Coover, Wm. H	Goshen	N. R. 10
Crockett, Jos. A	Elkhart	N. R. 10
Day, Duella	Goshen	R. D
Druse, Chas. L	Goshen	R. D
Eckleman, F. C	Elkhart	R. D
Eisenbeiss, Samuel	New Paris	R. 10
Fisher, Albert S	Elkhart	H. D
Fisher, Martin L	Elkhart	P.-M. D
Frink, C. S	Elkhart	R. D
Frink, C. W	Elkhart	R. D
Funk, Sophia M	Elkhart	H. D
Greiner, Geo. G	Vistula	R. 3
Haggerty, R. Q	Elkhart	R. D
Hani, Wm. F	Middlebury	R. D
Harding, Philemon D	Goshen	R. D
Harrington, O. H	Elkhart	R. D
Hatch, O. W	Elkhart	N. R. 3
Heatwole, Henry	Goshen	E. 10
HEATWOLE, JOS. H	Goshen	R. D
Hendryx, Truman C	Elkhart	R. 3
Herring, Fred K	Goshen	E. 10
Horton, Alice H	Elkhart	E. D
Inks, John S	Wakarusa	R. D
Irwin, Albert J	Goshen	R. D
Jackson, Amos C	Goshen	R. 10
Jennings, J. W	Millersburg	R. D
Johnson, Wm. W	Goshen	R. D
Keisewetter, P. Hugo	Goshen	R. D
Knepple, Wm. H	Wakarusa	R. 3
Krider, Martin K	Goshen	H. D
Krider, Wm. B	Goshen	H. D
Kyler, Wm. B	Benton	R. 10
Lambert, Curtis A	Goshen	R. D
Latta, Milton M	Goshen	R. D
Larimer, Bartlett	Millersburg	R. D
Lichty, Samuel M	Wakarusa	R. D
Martin, Samuel E	Vistula	E. 10
Mathews, James	New Paris	R. D
Miles, Franklin L	Elkhart	R. D
Miller, Daniel L	Goshen	R. D
Montgomery, Thos	Elkhart	N. R. 10
Mumaw, H. A	Nappanee	H. D
Myers, Jacob W	Middlebury	E. D
Neal, Wm. A	Elkhart	R. 3
Niman, Chas. H	Elkhart	R. D
Pixley, C. S	Elkhart	R. D
Putt, Franklin L	Middlebury	R. D
Richards, Isaac	Waterford Mills	N. R. 10
Rogers, Solomon	Millersburg	N. R. 10
Sensenich, Aaron	Wakarusa	R. D
Shepherd, Thomas	New Paris	N. R. 10
Sparklin, Charles C	Goshen	R. 10
Spohn, Geo. W	Elkhart	R. D
Stauffer, Horace R	Nappanee	R. D
Stauffer, Walter O	Nappanee	R. D
Swartz, C. H	Nappanee	R. 3
Sweetland, Frank	Elkhart	R. D
Thomas, Warren H	Elkhart	H. D
Turner, Porter	Elkhart	H. 3
Wert, Philip L	Waterford Mills	N. R. 10
Wickham, W. W	Goshen	E. D
Whippy, Wm. A	Goshen	H. D
Whitmer, B. F	Goshen	R. D
Woodcox, Nelson C	Millersburg	E. D
Work, Jas. A	Elkhart	R. D
Vincent, Orville J	Elkhart	R. D

Regular, 51: Eclectic, 7; Homeopathic, 9; not reported, 9.

Fayette County.

Name.	*Post Office.*	*School.*	*Name.*	*Post Office.*	*School.*
Chitwood, Geo. R.	Connersville	R. D	Pepper, Wm. J	Connersville	R. D
Chitwood, Joshua	Connersville	R. D	Shepard, L. D	Everton	R. 10
Chitwood, John E	Connersville	R. D	Sipe, R W	Orange	R. D
Chitwood, Frank	Connersville	R. 10	Smalley, John G	Connersville	R. D
Derbyshire, Ephraim.	Bentonville	R. D	Tingley, W. B	Harrisburg	R. 10
Derbyshire, A. L	Connersville	R. D	Turner, John	Null's Mills	E. 10
Dillman, L. D	Connersville	R. D	Tyrrell, A. D	Connersville	E. 10
GREGG, W. H.	Connersville	R. 10	Vance, S. W	Connersville	R. D
Hamilton, S. N	Connersville	R. D	Wall, John	Connersville	R. 10
Larimore, J. D	Connersville	R. D	Webster, Elias	Connersville	E. D
Phares, O. P	Alquina	R. D	Wyman, Charles	Connersville	R. D

Regular, 19; Eclectic, 3.

Floyd County.

Alexander, S. J	New Albany	R. D	Kay, Robert	Greenville	R. D
Bowman, Chas	New Albany	R. D	Levi, L. D	Georgetown	R. D
Beust, Max	New Albany	R. D	Lemon, John H	New Albany	R. 10
Beust, Bernard	New Albany	R. 10	McIntyre, Chas. W	New Albany	R. D
Burney, W. A	New Albany	R. D	Neat, Thos. C	New Albany	R. 10
Brigham, R. S.	New Albany	H. D	Needham, H. J	New Albany	H. D
Brockington, Chas. N.	New Albany	H. D	Rutherford, R. S	Galena	R. D
Clapp, W. A	Now Albany	R. D	Sloan, John	New Albany	R. D
Cannon, Geo. H	New Albany	R. D	Stewart, John L	New Albany	R. D
Cook, Chas. P	New Albany	R. D	Sinex, Wm. G	New Albany	R. D
Cole, John A	Georgetown	R. D	Starr, Wm. L	New Albany	R. D
Davis, Jas. M	Greenville	R. D	Sigmon, Edwin L	New Albany	R. D
Davis, Chas. P	Galena	R. D	Severinghous, J. F	New Albany	R. 10
Erni, G. O	New Albany	H. D	Taggart, W. J	Galena	R. D
EASLEY, E. P	New Albany	R. D	Wilcox, S. C	New Albany	R. D
Jones, Jas. H	New Albany	R. 10	Wolfe, H. S	New Albany	R. D
Knoefel, August	New Albany	R. 10	Williams, Wm. R	Greenville	R. D

Regular, 30; Eclectic, 1; Homeopathic, 4.

Fountain County.

Armstrong, Lewis P	Newtown	R. D	•McNeil, Scott	Stone Bluff	R. 3
Burlington, James C	Attica	E. D	Petit, Marshall	Veedersburg	R. D
Case, Marien T	Attica	R. D	Quinn, James W	Hillsboro	R. 10
Coggins, Charles M	Snoddy's Mill	R. D	Rice, John T	Attica.	R. D
Cole, Wm. C	Attica	R. D	Richardson, A. G.	Veedersburg	R. D
Cooper, Silas C	Fountain.	N. R. 10	Riffle, John S.	Newtown	R. D
Dowden, James W	Yeddo	N. R. 10	Rowland, George.	Covington	R. D
Fine, E. M	Steam Corner.	R. D	Rupert, Archie M	Attica	R. D
Finney, Chas. J	Attica	R D	Shoaf, F. A	Yeddo	R. D
Gorden, Goldsmith.	Veedersburg		Shotts, Henry R	Wallace	R. D
Hays, George C.	Hillsboro	R. D	Sparks, J. T	Yeddo	N R. 10
Jones, George S	Covington	R. D	Spinning, John N	Covington	R. 10
Lyons, Lewis D.	Attica	R. D	Stout, Wm. R	Hillsboro	R. D
Livengood, Jasper	Wallace	R. D	Vandervolgen, W. M.	Attica	R. D
MOCK, JOHN W	Covington	R. D	Whitehall, Sam'l P	Attica	E. D
Moore, Patrick B.	Harveysburg	R. D	Wilson, Wm. L.	Attica	R. D
McClelland, A. J	Veedersburg	N. R. 10	Young, F. B	Veedersburg	R. D

Regular, 27; Eclectic, 2; Not Reported, 4.

Franklin County.

Name.	*Post Office.*	*School.*		*Name.*	*Post Office.*	*School.*	
Averdick, H. G	Oldenburgh	R.	D	Linegar, D. B.	Whitcomb	E.	3
Anness, W. R	Bath	R.	3	Lindner, H	Brookville	E.	D
Berry, Geo., Sr	Brookville	R.	10	Mann, E. B	Oldenburgh.	R.	D
Berry, W. H	Brookville	R.	D	Morgan, J. O	Springfield	R.	D
Burtonshaw, T. J	Drewersburgh	R.	10	Maguire, W. M	Metamora	R.	10
Black, F. B	Mt. Carmel	E.	D	McElwee, Harry	Bath	R.	D
BUCKINGHAM, G. B	Brookville	R.	D	Owens, R. J	Cedar Grove	R.	D
Cupp, M. F	Metamora	R.	D	Patterson, E. L	Fairfield	R.	D
Conner, J. H	Metamora	R.	10	Quick, J. H	Brookville	R.	10
Davis, W. H	Springfield	R.	10	Squires, Geo. E	Brookville	E.	D
Ford, Thos. J	Laurel	R.	D	Schum, Chas	St. Peters	R.	10
Gifford, S. A	Laurel	R.	D	Seal, F. E	Whitcomb	E.	D
Gregory, Henry, Jr	Laurel	R.	10	Simmons, E	Blooming Grove	R.	3
Hendricks, J. L	Fairfield	R.	3	Stoddard, S. P	Brookville	E.	D
Jenkins, E. W	Mt. Carmel	E.	D	Starr, P. J	Bl'm'g Gr've N.	R.	10

Regular, 22; Eclectic, 7; Not Reported, 1.

Fulton County.

Bailey, Allen S.	Akron	R.	10	Howell, John Q.	Kewanna	R.	10
Brown, Angus	Rochester	H.	10	Johnston, Aaron	Akron	R.	10
Calvin, Geo. M	Kewanna	E.	D	Loring, Charles J	Rochester	R.	D
Capel, Alfred Z.	Akron	R.	D	Morris, James M	Fulton	R.	10
Campbell, C. W.	Blue Grass	R.	10	Overmeyer, Benj. F	Leiter's Ford	R.	10
Clymer, Newton J	Bloomingsburg.	E.	D	Peffley, W. F	Fulton	R.	10
Case, Augustus	Akron	R.	D	Robbins, A. H	Rochester.	R.	D
Doke, John T.	Tiosa	R.	10	Rhodes, E. E	Bigfoot	R.	D
Dawson, Bryson F	Rochester	R.	D	Rannells, Jacob N	Rochester	E.	D
Fish, S. R.	Bloomingsburg.	R.	10	Shofer, Winfield S	Rochester	E.	D
Gould, Vernon	Rochester	R.	D	SHIELDS, A. M	Rochester	R.	D
Gould, Chas E	Rochester	R.	D	Spohn, Jacob C	Rochester	R.	D
Hector, Frank M	Rochester	E.	D	Wait, Oliver P	Rochester	R.	D
Hector, C	Rochester	E.	D	West, John H.	Blue Grass	R.	D
Hill, Wm	Rochester	E.	D	Wilson, Wm. S	Tiosa	R.	D
Harter, C. F	Akron	R.	D				

Regular, 24; Eclectic, 6; Homeopathic, 1.

Gibson County.

Burton, A. R	Princeton.	R.	D	Montgomery, T. J	Owensville	R.	D
Burton, Hiram	Somerville	R.	10	Marchant, Victor.	Haubstadt	R.	D
Ballard, John	Haubstadt	R.	D	Mumford, S. E	Princeton	R.	D
Blair, W. W	Princeton	R.	D	Malone, J. A	Princeton	R.	10
Blair, Frank	Princeton	R.	D	Moore, Robt	Sommerville	R.	D
Brown, Thos. M	Oakland City.	R.	10	McGowan, J. M	Oakland City.	R.	D
Curtner, P. H	Hazleton	R.	D	McGowan, W. J	Oakland City.	R.	D
Clark, John I.	Owensville	R.	3	Nelson, Frank	Hazleton	R.	3
Duncan, Wm. B	Patoka	R.	3	Ottoman, Peter.	Haubstadt	R.	D
Fisher, G. C	Patoka	R.	D	Patten, J. C	Francisco.	R.	D
French, W. W	Fort Branch	R.	D	Powell, D. G	Princeton	R.	D
Gudgel, J. F	Hazleton	R.	D	Runcie, J. W	Fort Branch	R.	D
Genung, W. R	Fort Branch	R.	D	Runcie, G. W	Fort Branch	R.	D
Hudson, O. L	Princeton	H.	10	Reavis, D. P	Francisco.	R.	3
Hopkins, W. G	Fort Branch	R.	D	Richie, L. B	Buckskin.	R.	3
Hammond, J. H	Princeton	H.	D	Strickland, Geo	Francisco.	R.	D
Jones, Susan B	Princeton	R.	3	Stott, John	Princeton	R.	D
Jones, Thos. B	Buckskin.	R.	D	Shoemaker, D. M.	Owensville	E.	D
Kidd, W. G	Princeton	R.	D	Shelton, J. W	Sommerville	R.	3
Kendle, G. C	Princeton	R.	D	SHOPTAUGH, S. H	Princeton	R.	D
Kelly, F. H		R.	D	Stewart, W. H. H.	Oakland City.	R.	D
Leister, W. L	Oakland City.	E.	3	Stewart, A. L	Sommerville	R.	D
Lehman, J. T.	Patoka	E.	3	Williams, J. M	Owensville	R.	D
Littlepage, Geo.	Haubstadt	R.	D	West, V. T	Princeton	R.	10
Mason, G. C	Oakland City.	R.	D	Woodruff, A. C	Oakland City.	R.	D
Maxam, F. H.	Princeton	R.	D				

Regular, 46; Eclectic, 3; Homeopathic, 1.

Grant County.

Name.	*Post Office.*	*School.*	
Adkins, John C	Marion	R.	D
Ardery, Oscar	New Cumberl'd	R.	D
Barnes, R. A	Marion	P. M.	D
Barnes, Elnor	Marion	P. M.	D
Barnes, Wm. C	Mier	R.	D
Brinker, W	Marion	E.	D
Conover, Jas. V	Jalapa	E.	D
Coldron, Wm. R	Marion	P. M.	D
Cory, Lavander	Van Buren	R.	D
Cory, Lewis J	Van Buren	R.	D
Cory, Chas. W	Van Buren	R.	D
Conwell, L. V	Van Buren	R.	D
Daniels, G. W	Point Isabel	R.	D
Davis, Sam'l H	Sweetser	E.	D
Eberle, Peter	Marion	N. R.	3
Flynn, Wm	Marion	R.	D
Forrest, J. H	Marion	E.	D
Fallis, Amos L	Fairmount	P. M.	D
Holiday, Thos. T		N. R.	—
Haines, Howard C		P. M.	D
Hollis, Sam'l	Upland	R.	D
Henley, A	Fairmont	R.	D
Hanmore, John	Landesville	R.	D
Haines, N. P	Herbst	R.	3
Hubbard, Wm. H	Marion	R.	D
HAMILTON, A. A	Marion	R.	D
Horne, Samuel	Jonesboro	R.	D
Hough, W. A	Marion	P. M.	3
Howe, Lawrence E	Jonesboro	P. M.	D
Harden, Sam'l A	Marion	P. M.	D
Harden, Mrs. C. A	Marion	P. M.	D
Innis, Robert E		N. R.	3
Jones, E. P	Marion	E.	D
Jones, Chas. R	Marion	P. M.	D
Jones, Chas. A	Jonesboro	E.	D
Jackson, Logan M	Marion	R.	10
Knight, John C	Jonesboro	R.	D
Kimball, T. C	Marion	R.	D
Kersey, Jas. B	Weaver	P. M.	D
Kelsey, J. S		R.	3
Kimball, A. D	Marion	R.	D
Ludlum, B. F	Marion	R.	D
Langston, Edgar	Pt. Isabel	N. R.	10
Lomax, Wm	Marion	R.	D
Lennox, Frank	Swayzee	R.	D
Lawshe, I. T	Swayzee	R.	D
Lytle, J. B	Marion	R.	D
Lord, J. L	Marion	R.	D
Marlow, Austin T	Fairmount	E.	D
Munsey, J. S		R.	D
Moon, Allen	Fairmount	P. M.	3
Meek, John A	Jonesboro	R.	10
Morris, Geo. P	Jadden	P. M.	D
McKinney, Geo. W	Jonesboro	E.	10
Mock, J	Marion	N. R.	10
Moore, Chas. V	Fairmount	R.	3
McTurman, M. J	Indep'dence,	N. R.	10
Mauring, N. H	Rigdon	R.	D
Moore, S. W	Marion	E.	D
McKinsey, Wm. M	Marion		10
Pucket, T. J	Arcania	P. M.	10
Powell, Elmer N	Normal	R.	D
Rigdon, Pryor	Independence	R.	D
Ross, Justin	Marion	R.	D
Shiveley, James S	Marion	R.	D
Shiveley, Marshall	Marion	R.	D
Snodgrass, D. B	Marion	P. M.	D
Stout, O. L	Upland	R.	D
Stevens, A. B	Marion	P. M.	D
Seal, Isaac N	Hackleman	R.	10
Small, N. W	Jonesboro	E.	D
Snodgrass, Mrs. Mary,	Marion	P. M.	D
Snodgrass, Sam'l J	Marion	P. M.	D
Snodgrass, Benj. D	Marion	P. M.	D
Smith, I. M	Marion	P. M.	D
Thomas, Wm. B	Fairmount	R.	D
Thomas, Rosa	Marion	P. M.	D
Votaw, Mrs. R. A	Marion	P. M.	D
Williams, Lewis	Marion	R.	D
Whitson, Eli M	Jonesboro	E.	D
Williamson, Peter E	Sweetser	R.	D
Wharton, Wm. L	New Cumberl'd,	R.	D
Wall, M. M	Marion	H.	D
Ward, Jas. B		R.	D
Ware, C. M	Swayzee	R.	D
Webster, E. C	Marion	E.	D

Regular, 44; Eclectic, 11; Homeopathic, 1; Physio-Medical, 22; not reported, 8.

Greene County.

Aydelotte, Thomas.	Wright	R.	3
Arnold, J. G	Lyons.	R.	10
Acton, Wm. G	Worthington	E.	10
Asbury, W. H. H	Jasonville	R.	D
Burge, Nicholas C	Park	R.	10
Burk, Wm. H.	Scotland	R.	D
Bridwell, Lafayette	Owensburgh	R.	D
Benefiel, R. A. J	Marco.	R.	10
Cook, Peter M	Solsberry	R.	D
Cole, Willis H	Switz City	R.	D
Clary, Hiram T.	Worthington	E.	D
Cravens, Samuel C	Bloomfield	R.	D
Dilley, Leroy H	Linton	E.	3
Durment, Charles E	Newberry.	R.	D
Doolery, Michael M	Koleen	R.	D
Edwards, Charles H	Lyons.	R.	D
Ellis, Ira	Linton	R.	D
Gray, John W	Bloomfield	R.	D
Gray, Simeon	Worthington	R.	3
Gray, Geo. B	Worthington	R.	D
HARRAH, JNO. M	Switz City	R.	D
Hannon, John W.	Scotland	R.	D
Herold, Henry	Owensburgh	E.	10
Hilburn, E. W	Newberry.	R.	D
Jackson, E. J	Linton	R.	3
Lowder, H. R.	Bloomfield	R.	D
Laughlin, Charles E	Owensburgh	R.	D
Mullinix, L. P	Worthington	E.	D
McIntosh, Jacob P	Newark.	E.	3
Marshall, Alfred F.	Jasonville	R.	3
Mullane, Joseph	Lyons.	R.	D
McCabe, Henry H	Worthington	E.	D
Minich, James A	Worthington	R.	D
McKissick, O. P	Lyons.	R.	10
Newman, Wm. R.	Worthington	P.M.	D
Rose, B. A	Linton	R.	D
Rankin, Thomas B.	Bloomfield	R.	D
Roberts, Ed. S	Worthington	R.	10
Roberts, Ed. J	Bloomfield	R.	10
Sherwood, Elmer T	Linton	R.	D
Selfridge, Wm. R	Worthington	R.	D
Simms, J. A	Newberry.	R.	D
Stone, J. A. M	Switz City	R.	3
Stansifer, George I.	Hobbieville.	R.	D
Smith, E. W. L.	Linton	R.	D
Squire, Wm. B	Worthington	E.	D
Talbott, James E	Marco.	R.	D
Williams, Noah W.	Owensburgh	R.	3
Wheeler, Thomas	Newark.	E.	D
Young, W. L	Newberry.	E.	D
Young, Charles C	Newberry.	E.	D

Regular, 39; Eclectic, 11; Physio-Medical, 1.

Hamilton County.

Name.	*Post Office.*	*School.*
Aldred, J, A	Hortonville	R. D
Applegate, A. J	Eagletown	
Austin, E. P	Noblesville	E. 10
Baker, J. J	Westfield	P.-M. D
Barber, J. M	Arcadia	R. 10
Benson, J. L	Noblesville	R. D
Booth, A. D	Noblesville	R. D
Byers, J. S	Noblesville	P.-M. D
Carney, Frank W	Sheridan	R. D
Cary, Daniel	Carmel	P.-M. D
Cook, C. W	Carmel	P.-M. D
Davenport, H. E	Sheridan	R. D
Davenport, I. W	Sheridan	R. D
Dove, S. C	Westfield	R. D
Driver, J. C.	Atlanta	R. D
Dunn, J. R	Atlanta	
Eskew, H. L	Eagletown	R. D
Fancher, J. W	Sheridan	R. D
Fouch, J. P.	Jolliettville	R. D
Glass, Thomas F	Atlanta	R. 3
Glass, W. M	Atlanta	R. D
Graham, W. B	Noblesville	R. D
Gray, J. M	Noblesville	R. D
Griffin, R. J	Baker's Corner	R. 3
Harrola, N. G	Noblesville	R. D
Haworth, M. C	Noblesville	R. D
Heath, J. P	Fisher's Switch	R. D
Herr, Henry S	Westfield	R. D
Hershey, K. C	Westfield	R. D
Hobson, Joyce F	Noblesville	E. D
Hauser, J. H	Arcadia	P.-M. D
Johnson, M. S	Ekin	R. 3
Kitchell, J. S.	Noblesville	H. 10
Leavens, A. D. W	Carmel	P.-M.
LOEHR, E. C	Noblesville	R. D
Lyle, A. W. T.	Fisher's Switch	R. D
Malotte, William	Arcadia	R. D
McFatridge, L. C.	Sheridan	R. D
McGee, J. A		
McMurtry, T. J.	Boxley	R. D
Mendenhall, C. W	Carmel	R. D
Miessee, A	Noblesville	R. D
Milliken, H. W	Sheridan	P.-M. D
Moore, G. B	Aroma	R. 10
Murphy, James M	Arcadia	R. D
Newby, J. C.	Boxley	R. D
Orr, C. W	Cicero	R. D
Parr, J. N.	Jolliettville	R. D
Pettijohn, J. B	Westfield	R. D
Pettijohn, O. B	Deming	R. D
Roads, Anna	Atlanta	R. 10
Sample, M. M	Noblesville	P.-M. D
Smith, David	Noblesville	H.
Smith, H. B.	Strawtown	R. D
Smith, T. J	Strawtown	R. D
Starchman, Lewis	Atlanta	R. 10
Stout, H. H	Cicero	R. D
Tucker, A. R	Cicero	R. D
Warford, F. M	Cicero	R. D
Warman, A. J	Atlanta	R D
White, L. A	Noblesville	R. D
Whitesell, T. P	Clarksville	R. 10
Wilson, Wm. L	Baker's Cor.	P.-M. D

Regular, 47; Eclectic, 2; Homeopathic, 2; Physio-Medical, 9; not reported, 3.

Hancock County.

Adams, W. M	Greenfield	R. D
BOOTS, SAMUEL S	Greenfield	E. D
Bruner, C. K	Westland	R. D
Bruner, M. L	Westland	R. D
Buchel, J	Palestine	10
Carter, C. A	Charlottsville	R. D
Carter. L. A	Charlottsville	R. D
Collins, O. A	Mohawk	R. D
Cook, B. H	Wilkerson	R. D
Corey, A. F	McCordsville	E. D
Corey, John D	McCordsville	R. 3
Cox, W. B	Charlottsville	E. 3
Dailey, G. W	Charlottsville	E. 10
Ely, Jas. M	Palestine	R. D
Ely, L. C	Palestine	R. D
Hammer, N. L	Wil'w B'nch	P.-M. D
Hanna, R. D	Warrington	R. D
Hervey, F. F	Fortville	R. D
Hervey, T. P	McCordsville	R. 10
Howard, N. P., Jr	Greenfield	R. D
Inlow, J. E.	Carrollton	R. 10
Judkins, E. I	Greenfield	R. D
Julian, J. P	Wilkerson	P.-M. D
Justice, J. H	Eden	R. D
Justice, W. A	Maxwell	R. D
King, W. B	Philadelphia	R. 3
Kirkhoff, C	Palestine	R. D
Larimore, J. R	Carrollton	R. D
Martin, S. M	Greenfield	R. D
Ryan, W. B	Willow Branch	R. 3
Saunders, T. K	Fortville	10
Stuart, A. A	Fortville	R. 3
Stuart, J. G	Fortville	R. D
Stuart, L. C	Wilkerson	E. D
Trees, Wm	Warrington	R. 10
Troy, S. A	Milliner's Cor	R. D
Wright, I. E	Charlottsville	E. D
Yancey, S. T	Fortville	R. D

Regular, 28; Eclectic, 6; Physio-Medical, 2; not reported, 2.

Harrison County.

Anderson, John W	Moberly	R. D
Baxter, John C.	Valley City	R. D
Bennett, Jas. H	Amsterdam	R. D
Baston, Charles H	Palmyra	P.-M. D
Clark, Jacob C	Corydon	R. D
Curry, John	Mauckport	R. 10
Daniel, John	Crandle	R. D
DANIEL, WM.	Corydon	R. D
Davis, Wm. H	N. Middletown	R. D
Denbo, Wm. R	Mauckport	R. 10
Ellis, Joseph	Bradford	R. 10
Finley, John F	Palmyra	
Forbis, B. F	Laconia	R. D
Fouts, David C	N. Salisbury	R. 10
Fouts, Henry C.	Lanesville	R. D
Funk, Z. T	Corydon	R. D
Funkhouser, W. H	N. Middletown	R. D
Horner, Jacob S	Lanesville	10
Hopper, Isaac J	DePauw	P.-M. D
Jones, A. M.	Corydon	R. D
Kandie, Wm. A	Laconia	R. 10
Lafayette, Wm. P	Mott's Station	R. D
Lawson, John E	Corydon	R. D
Martin, Geo. F	Corydon	R. D
Mitchem, Littleton	Crisp's X Roads	R. 10
Moore, Wm.	Elizabeth	R. D
Neely, Isaac L	Corydon	R. D
Patterson, R. W	Elizabeth	R. 10
Reader. Wm	Corydon	R. D
Reader, Wm. H	Amsterdam	R. D
Seigler, R R	Ramsey	R. D
Smith, Alvin E	Laconia	R. D
Smith, A. E. L	Corydon	R. D
Smith, Samuel H	Laconia	R. D
Winders, L. C	N. Middletown	R. 10
Wolfe, L. O	Elizabeth	R. D
Wolfe, Sam'l C	Elizabeth	R. D
Wolfe, Z. C	Lanesville	R. D
Wolpert, Wm. I	Elizabeth	R. D
Zener, Jeremiah W.	Lanesville	R. 10

Regular, 36; Physio-Medical, 2; Not Reported, 2.

Hendricks County.

Name.	*Post Office.*	*School.*	
Adams, Thomas J	North Salem	R.	D
Allen, John Q	Plainfield	R.	D
Barker, Joel T	Danville	R.	D
Bartholomew, Br'dl'y	Danville	R.	D
Brazier, Thomas J	Pecksburgh	R.	3
Brent, Newton	Pittsborough	R.	D
Brill, J. H	Pittsborough	R.	D
Broadhurst, John	North Salem	E.	10
Brook, M. W	Center Valley	R.	3
Burk, Tighlman	Lizton	R.	3
Carter, Amos	Plainfield	R.	D
Davidson, Albert M	Brownsburg	R.	D
Dryden, Thomas F	Clayton	R.	D
Evans, Thomas	Plainfield	R.	D
Farrabee, C. E	Danville	R.	D
French, John S	Pittsborough	R.	D
Gilbert, A. K	Clayton	R.	D
Graham, Thomas A	Brownsburgh	R.	D
Green, J. N	Stilesville	R.	D
Grimes, William T	Coatesville	R.	3
Hamlin, Samuel E	Cartersburgh	R.	D
Heavenridge, A	Stilesville	R.	D
Hoadley, Wm. J	Danville	R.	D
House, George H. F	Clayton	R.	D
Hunt, Tighlman	Coatesville	R.	D
Huron, Frank H	Danville	H.	D
Johnson, T. W	Danville	H.	D
Johnson, Oscar B	Lizton	R.	D
Kennedy, Leroy H	Danville	R.	D
Lawson, Wilson T	Danville	R.	D
Lewis, Robert	Plainfield	R.	D
Marsh, John L	Brownsburgh	R.	D
Masters, N. G	Stilesville	R.	D
McKitrick, Albert	Brownsburgh	R.	D
Moore, Risdon C	Bellville	R.	D
Morgan, Abraham	Cartersburgh	E.	D
O'Dreyer, Mary A. M.	Brownsburgh	E	D
Osborn, John A	New Winchester	R.	D
Parker, M. G	Danville	R.	D
Proctor, James M	North Salem	R.	D
Ragan, John S	Avon	R.	D
Reagan, Jesse	Plainfield	R.	3
Robbins, William	North Salem	R.	D
Snoddy John M	Stilesville	R.	D
Strong, Asa M	Bellville	R.	D
Strong, J. F	Plainfield	R.	D
Summers, Harvey C	Amo	R.	D
Todd, Henry G	Danville	R.	D
Towles, Albert N	Danville	R.	D
WHITE, CHAS. A	Danville	R.	D
White, William H	Amo	R.	D

Regular, 46; Eclectic, 3; Homeopathic, 2.

Henry County.

Anderson, John T	Honey Creek	R.	3
Burke, George W	New Castle	R.	D
Boor, Walter Axline	New Castle	R.	D
Barrett, Omar H	Knightstown	R.	D
Bond, Caleb W	Cadiz	R.	10
Boor, William F	New Castle	R.	D
Bartlett, Claude G	Dunreith	R.	D
Bailey, George D.	Spiceland	R.	D
Bartlett, A. C.	Lewisville	R.	D
Bailey, Rachel S	Spiceland	R.	D
Bartlett, Wm. M	Lewisville	R.	10
Benedict, Hanford	Springport	R.	3
Cress, John B	Knightstown	R.	D
Crouse, Henry M	Knightstown	R.	D
Clapper, David	Mooreland	H.	D
Cochran, James	Spiceland	R.	D
Eskew, William C	Kennard	R.	D
Estabrook, L. W	Springport	R.	D
Ferris, Edgar S.	New Castle	R.	D
Ferris, Samuel	New Castle	R.	10
Gibbs, Chas. U	New Lisbon	R.	10
Green, A. W	Knightstown	R.	D
Gronendyke, Thos. W	New Castle	R.	3
Gronendyke, O. J	Spiceland	R.	D
Garrett, Obed H	Cadiz	R.	D
Griffis, Robert	Middletown	R.	D
Guyer, Oscar K.	Lewisville	R.	D
Hall, Milton	Middletown	H.	10
Hess, Frank	Cadiz	R.	D
Hobbs, Wilson	Knightstown	R.	D
Holloway, O. E.	Knightstown	R.	D
Holloway, Lizzie E	Spiceland	H.	D
Hollinger, I. U	Blountsville	R.	3
Hardesty, J. C	Millville	R.	D
Hastings, A. H	New Castle	H.	D
Kissel, Wm.	New Castle	R.	10
Johnson, E. M	Greensboro	R.	D
Jackson, Frank G	Mt. Summit	R.	3
Leavens, A. Dewolf	Middletown	P.-M.	D
Lowman, Joseph	Mooreland	P.-M.	D
Mendenhall, Isaac	New Castle	R.	10
Mendenhall, Elihu T	New Castle	R.	D
Maulsby, James	Knightstown	R.	10
McGavern, W. B	Knightstown	R.	D
McCormack, Wm. D	Sulphur Sp'gs	P.-M.	D
Mitchell, Walter P	Kennard	N. R.	D
McKillip, James H.	Knightstown	R.	10
McShirley, James L	Mooreland	R.	D
Norveil, R. D.	Mt. Summit	E.	D
Newby, Zimri	Greensborough	R.	10
Olden, Wilson C	Kennard	R.	10
Pickering, Samuel	New Lisbon	R.	D
Pendleton, C. B	Mech'csburgh	P.-M.	D
Painter, Berry	Middletown	N. R	
Rawlins, F. J. C	Elizabeth City	R.	D
Rawlins, John W.	Elizabeth City	R.	3
Ross, Jont	Blountsville	R.	10
Rea, Chas. N	Rogersville	R.	D
Rea, John	New Castle	R.	D
Rutledge, Elijah D.	Sulphur Springs	E.	3
Rodecap, Geo. W.	Middletown	H.	D
Smith, Nelson G	Lewisville	E.	D
Stafford, Daniel	New Castle	P.-M.	D
Stafford, J. A	Millville	P.-M.	D
Stafford, Horace	Straughn	P.-M.	D
Smith, R. A	Greensboro'	P.-M.	D
Smith, Mary J	Greensboro'	P.-M.	10
Stone, Frank L.	Mech'csburgh	P.-M.	D
Stanley, Jane C	Knightstown	R.	D
THOMPSON, JNO. F.	New Castle	H.	D
Thornburg, Frank L.	Middletown	R.	D
Westerfield, J. M.	Dunreith	E.	D
Weaver, John	Knightstown	R.	10
Wayman, John C.	New Castle	P.-M.	D
Weeks, Joseph	Mech'csburgh	P.-M.	D
Weeks, Elizabeth J	Mech'csburgh	P.-M.	D
Welsh, J. H.	Middletown	R.	D
Waters, S. C	Middletown	R.	D
Winston, L. V	Knightstown	R.	D
Williams, Geo. H	New Castle	P.-M.	D
Williams, John B	Honey Creek	P.-M.	D
Yauckey, David H	Blountsville	R.	3

Regular, 55; **Eclectic, 3; Homeopatic, 5; Physio-Medical, 16; Not Reported, 1.**

Howard County.

Name.	*Post Office.*	*School.*	
Armstrong, E. A	Kokomo	R.	D
Bates, Aaron J	Kokomo	R.	D
Berst, J. H	Kokomo	R.	D
Bagwell, Lewis A	Jerome	R.	D
Beisecker, Jno. W	W. Middleton	E.	D
Byers, J. J	Hemlock	R.	10
Blount, Cyrus N	Kokomo	R.	D
Covalt, Amos A	Greentown	R.	D
Conner, Levi	Jerome	E.	3
Cooper, William	Kokomo	E.	D
Creason, Silas P	Shanghai	R.	D
Freeman, Alex. C	Kokomo	R.	10
Garr, James O	Kokomo	R.	D
Gifford, T. V	Kokomo	N. R.	10
Hull, W. H	Center	R.	D
Haines, H. C	Sycamore	P.-M.	D
Hulburt, David	Kokomo	N. R.	3
Kern, Theo	Kokomo	R.	D
Kern, Lewis	Kokomo	R.	D
Kirkpatrick, Jas. B	Kokomo	R.	D
Kemp, Geo. W	Russiaville	R.	3
Kirkpatrick, David	Kokomo	N. R.	10
Johnson, Isaac C	Kokomo	R	D
Lovett, Jno. A.	Kokomo	R.	10
Moulder, J. McLean	Kokomo	R	D
Miller, Albert W	Plevna	E.	D
Miller, H C	Ridgeway	R.	D
Moulder, T. M	Russiaville.	R.	D
Murray, S. T	Greentown	R.	10
Moore, Jno. B	Kokomo	R.	D
McClurg, Wm. H.	Kokomo	R.	D
Newlin, Sylvester	New London	E.	D
Oiler, Levi H	Russiaville	R.	10
Puckett, Jno. L	Kokomo	R.	D
Payton, W. B	Greentown	R.	D
Payne, A. T	Russiaville	R.	D
Rice, E. C	Oakford	E.	D
Ross, John H	Kokomo	R.	D
Smith, Richard H	Kokomo	R.	D
Scott, William	Kokomo	R.	D
Scott, Gideon D	Greentown	R.	D
Sawyer, E. W	Kokomo	H.	D
Shirley, D. J	New London	R.	10
THORNE, J. C. F	Kokomo	R.	D
Tresslar, J. G	Kokomo	E.	D
Wright, J. W	Kokomo	R.	D
Walthall, Jno. G	Sycamore	R.	D
Wilson, R. Q	Kokomo	R.	D
Ware, C. W	W. Liberty	R.	D
Wooley, C. A	Kappa	R	10
Waltman, William	Kokomo	E.	D

Regular, 38; Eclectic, 8; Physio-Medical, 1; Homeopathic, 1; Not Reported, 3.

Huntington County.

Brandon, W. S	Andrews	R.	D
Brelsford, James W	River	R.	D
Crandel, Thomas	Majenica	E.	D
Carson, William F	Roanoke	R.	D
Chenoweth, Geo. P	Mt. Etna	R.	D
Chaffee, William C	Huntington	R.	D
Eversole, Charles	Huntington	R.	D
Fry, Charles W	Bracken	R.	D
Fisher. Erastus S	Brown's Corn's.	R.	D
Good, Charles H	Warren	R.	D
Grayston, F. S. C	Huntington	R.	D
Grayston, B. H. B	Huntington	R.	D
Grayston, Charles E	Huntington	R.	D
Gemmill, Henry C	Markle	R.	D
Lyons, Ira E	Huntington	R.	D
Leyman. Emery H	Huntington	R.	D
Lyons, Wm. B	Huntington	R.	D
Leyman, Daniel S	Huntington	R.	D
Mitchell, Samuel P	Mt. Etna	R.	D
Mackey, James L	Warren	H.	D
Palmer, Elbridge W	Warren	R.	D
Smith, Isaac A	Warren	R.	D
Shaffer, A. H	Huntington	R.	D
Scott, Joseph	Markle	R.	10
SEVERANCE, LaG	Huntington	R.	D
Scott, N. W	Huntington	R.	D
Searles, J. W	Huntington	R.	10
Sprowl, John S	Warren	R.	D
Trembley, George D	Bippus	R.	D
Williams, O. B	Andrews	R.	10
Williams, Wm. H	Harlansburg	R.	10
Wallace, Leroy S	Hoboken	R.	D
Wright, Ervin	Huntington	R.	D
Wright, Charles L	Huntington	R.	D
Wyman, Charles P	Andrews	R.	D
Yingling, Daniel	Huntington	E.	D
Young, Edward T	Pleas't Plain	N. R.	10

Regular, 33; Eclectic, 2; Homeopathic, 1; not reported, 1.

Jackson County.

Anthony, James R	Brownstown	R.	D
Barnes, George O.	Cortland	R.	D
Booth, Junius R	Vallonia	—	10
Bard, Thomas S	Crothersville	—	10
Cummings, D. J	Houston	R.	10
Charlton, Samuel H	Seymour	R.	10
Cummings, H. A	Mooney.	R.	3
Charles, Jasper N	Tampico	R.	D
Casey, W. M	Seymour	R.	D
Carter, James H	Seymour	R.	D
Coryell, Samuel	Crothersville	R.	D
Chute, George H	Freetown	R.	10
Ewing, Francis M	Vallonia	R.	10
Gerrish, M. F.	Seymour	R.	D
Gibson, G. W.	Houston	R.	10
Green, W. O	Dudleytown	R.	10
Hunter, Chas. A	Reddington	P. M.	D
Kyte, H. R	Cortland	P. M.	D
Monroe, V. H	Seymour	R.	10
Manuel, Grafton	Freetown	R.	10
May, Albert	Crothersville	R.	D
McCormick, L. R.	Crothersville	R.	D
McMillan, James P	Medora	R.	10
Newkirk, A. L	Seymour	R.	10
Orvis, G. Q	Seymour	R.	D
Osterman, A. G.	Dudleytown	R.	D
Patrick, Chas. E	Seymour	R.	D
Rains, G. W	Cortland	R.	3
Ruddick, Lindley	Seymour	R.	D
Richards, Thomas J	Mooney.	R.	10
Reed, E. P	Ewing	R.	10
Shipman, N. N	Seymour	R.	D
Stilwell, Joseph A	Brownstown	R.	10
Shields. J. T	Seymour	R.	10
SHIELDS, JAS. M.	Seymour	R.	D
Tinch, E. T.	Ewing	R.	D
Whitehead, W. E	Brownstown	R.	D
Wells, James C.	Mooney.	R.	D
Warner, W. H	Nowhere	R.	D
Wilson, M. V.	Medora	R.	10

Regular, 36; Physio-Medical, 2; not reported, 2.

Jasper County.

Name.	*Post Office.*	*School.*	*Name.*	*Post Office.*	*School.*
Alter, W. B.	Rensselaer	R. 3	Loughridge, J. H.	Rensselaer	R. 3
BITTERS, F. P.	Rensselaer	R. D	Maxwell, S. C.	Remington	R. D
Bowman, Wm.	Blackford	R. 10	Patton, D. H	Remington	R. D
Denning, J. C.	Rensselaer	R. 10	Reigle, M. W	Remington	R. 3
Hartsell, W. W.	Rensselaer	H. D	Robbins, J. B.	Demotte	H. 10
Jackson, M. E	Rensselaer	R. 10	Stockwell, W	Wheatfield	R. 10
Landon, H	Remington	R. D	Washburn, I. B.	Rensselaer	R. D

Regular, 12; Homeopathic, 2.

Jay County.

Able, Oscar E.	**Bryant**	**R. D**	Mackey, Chas. W.	Portland	**R. D**
Anderson, James M	**Dunkirk**	**R. 10**	Milligan, A. A	Portland	**P. M. D**
Anderson, James H	**Dunkirk**	**H. 10**	Moon, Ezra W	Portland	**E. D**
Arthur, C. S.	**Portland**	**R. 3**	Miles, Jacob T	Bryant	**R. D**
Brown, H. V	**Portland**	**R. D**	McFarland, Norman	New Pittsburg	**R. 3**
Bosworth, J. M.	**Pennville**	**R. D**	Morehouse, John A.	Portland	**P. M. D**
Blackledge, L. N.	**Pennville**	**E. D**	Munsey, Samuel E	New Mt. Pleas't.	**R. 10**
Blackledge, A. J	**Pennville**	**E. D**	Mason, Samuel	Pennville	**R. D**
Brayton, Rufus W	**New Corydon**	**R. D**	Mincks, F. W.	Portland	**H. 3**
Clevenger, Benj. F.	**Redkey**	**R. D**	Poling, S. K.	Portland	**E. D**
Connor, Norris F.	**Redkey**	**E. D**	Rarick, Isaac N	Bluff Point	**P. M. D**
Dickes, Philip	**Boundary**	**R. D**	Ralston, Augustus	New Corydon	**R. D**
Dickes, John T.	**Portland**	**R. D**	Ross, John G	Westchester	**E. D**
Davis, R. P	**Portland**	**R. D**	SIMS, I. G.	Portland	**R. D**
France, John W	**Dunkirk**	**R. D**	Shepherd, Thos. S.	Portland	**R. 10**
Fertich, George W	**Dunkirk**	**R. D**	Shepherd, Geo. W	**Redkey**	**R. 10**
Glentzer, M. A	**Bryant**	**E. 10**	Stanton, D. S.	**Portland**	**R. 10**
Gillum, Stephen A. D.	**Bryant**	**E. 3**	Skinner, Davis T.	**Salamonia**	**E. D**
Gillum, James	**Portland**	**E. 10**	Selvey, S. S.	**Dunkirk**	**R. D**
Guy, Samuel D.	**Brayant**	**N. R. 10**	Saunders, C. B	**Pennville**	**P. M. D**
Hutchens, Henry C.	**Portland**	**E. 10**	Sticks, Jesse	**Bryant**	**E. D**
Horn, William C	**Pennville**	**R. D**	Smith, William	**Portland**	**N. R. 10**
Hutchinson, Jas. A.	**Salamonia**	**R. D**	Sage, Ira T	**Redkey**	**R. 10**
Hall, J. W.	**Portland**	**R. D**	Stiers, Francis R.	**Redkey**	**E. D**
Hamilton, R. A.	**Portland**	**E. 10**	Thomas, S. A.	**Pennville**	**N. R. 10**
Kinsey, David S.	**Portland**	**R. 3**	White, Thomas C.	**Powers**	**R. 10**
Kidder, J. F.	**New Mt. Pleas't.**	**R. 10**	Wicks, James	**Bryant**	**R. 10**

Regular, 31; Eclectic, 14; Physio-Medical, 4; Homeopathic, 2; not reported, 3.

Jefferson County.

Brengle, J. S	**Hanover**	**R. 10**	Lewis, Geo. B	**Dupont**	**R. D**
Burdsal, Charles A.	**Lancaster**	**R. 3**	Lewis, Sam. B	**Canaan**	**R. D**
Cornett, W. F. S	**Madison**	**R. D**	Lefeber, James M	**Graham**	**R. D**
Cooperider, J.	**Madison**	**R. D**	Lawder, Wm. G	**Brooksburg**	**R. D**
Christie, J. H.	**Canaan**	**R. D**	Matthews, J. H.	**Madison**	**R. D**
Cogley, F. J	**Madison**	**R. D**	Muret, J. H.	**Madison**	**R. D**
Chastine, H. W.		**R. D**	McCOY, WM. A	**Madison**	**R. D**
Dixon, Z. C	**Deputy**	**R. 3**	McCarty, Wm. W.	**Canaan**	**R. D**
Davis, J. F	**N. Madison**	**R. D**	Penn, Ben. A.	**Bryantsburg**	**E. D**
Forshee, T. W	**Madison**	**R. D**	Penn, Luke.	**Bryantsburg**	**E. 3**
Ford, S. M	**Madison**	**R. D**	Phillips, A. H	**Saluda**	**R. D**
Flanders, J. W	**Dupont**	**R. D**	Ryker, Charles	**Manville**	**R. D**
Eckert, O. N	**Madison**	**H. D**	Reynolds, Geo. E.	**Kent**	**R. D**
Eads, Edward E	**Madison**	**E. D**	Reynolds, J. H	**Wirt**	**R. 10**
Hutchings, W. D	**Madison**	**R. D**	Rawlings, J. V	**Wirt**	**R. D**
Hutchinson, W. D	**Madison**	**H. D**	Smith, Edwin M		**N. R. 10**
Hewitt, Geo. H	**Madison**	**R. D**	Sanderson, Thomas	**Kent**	**R. D**
Johnson, A. H	**Chelsea**	**R. D**	Townsend, S. M	**Madison**	**R. D**
Julian, Paris		**N. R. 10**	Tevis, R. M	**Brooksburg.**	**R. D**
Lewis, James R	**Madison**	**R. D**	Tevis, E. R	**Brooksburg.**	**R. D**
Lewis, Geo. C.	**Madison**	**R. D**	Van Pelt, G. W.		**R. D**
Lewis, J. F	**Dupont**	**R. D**	Wright, C. H	**N. Madison.**	**R. D**

Regular, 37; Eclectic, 3; Homeopathic, 1; not reported, 1.

Jennings County.

Name.	*Post Office.*	*School.*	
Adams, S. D	Brewersville	R.	10
Amick, C. C	Six Mile	R.	D
Case, W. W	Zenas.	R.	D
Coryea, F. M	Zenas.	E.	10
Firsich, B	N. Vernon.	N. R.	10
Fall, W. A	North Vernon	R.	D
Gaddy, N. D	Lovett	R.	D
Gaddy, Orville	Paris Crossing	R.	D
GREEN, C. H	North Vernon	R.	10
Green, James H	North Vernon	R.	D
Grahn, E. G	North Vernon	H.	D
Hanna, J. L.	Paris Crossing	R.	D
Hicks, B. R	Nebraska	P. M.	D
Kyle James W	North Vernon	R.	D
Kendrick, N. C	Butlerville	R.	10
Lyle, John M	Cana	R.	D
Light, A. B	North Vernon	R.	D
Lefeber, James M	Paris	R.	D
Mitchell, Walter J	Vernon	R.	D
Nelson, H. G	Butlerville	R.	D
Nighswander, M	Six Mile	R.	D
Phillips, A. W	Scipio.	R.	D
Reynolds, S. H	Scipio.	R.	D
Russell, Benj. F	Paris	R.	D
Richardson, N	Vernon	R.	D
Richardson, W. H	Vernon	R.	D
Renny, W. H	Zenas	N. R.	3
Steurm, W. H	Vernon	R.	D
Shepherd, Jos. F	Queensville	N. R.	10
Wildman, W. H	San Jacinto	R.	D

Regular, 24; Eclectic, 1; Homœopathic, 1; Physio-Medical, 1; not reported, 3.

Johnson County.

Adams, J. H	Amity		10
Adams, David	Edinburg	E.	D
Beebe, James	Whiteland		10
Bland, John A	Edinburg	R.	D
Byers, R. S	Samaria	R.	D
Covert, G. W	Franklin		3
Carnes, Zachariah	Greenwood	R.	D
Cravens, J. R	Franklin		3
Donnell, J. H	Franklin		10
Donnell, T. C	Franklin	R.	D
Dobyns, P. K	Whiteland	R.	D
Davis, A. T	Edinburg		10
Farris, J. T	Bargersville	R.	D
Fisher, J. C	Needham	R.	D
George, J. D	Franklin	H.	D
Gillaspi, F. P	Stone's Cross'g,	R.	D
Hall, W. C	Franklin	R.	D
Hall, H. J	Franklin	R.	D
Hibbs, Irwin	Nineveh		10
Jones, J. T	Franklin	R.	D
Kegley, John L	Stone's Cross'g		3
Lanam, J. H	Edinburg	R.	D
Miller, A	Whiteland	R.	D
Miller, D. H	Franklin	R.	3
Marshall, J. A	Nineveh		3
Maze, T. B	Needham		D
Noble, T. B	Greenwood		10
Ott, L. E	Franklin	R.	D
Payne, P. W	Franklin	R.	D
Province, W. M	Providence	R.	D
Paine, Luther	Ediuburg	E.	D
Quick, R. S	Edinburg	E.	D
Rush, W. P	Edinburg	R.	D
Ream, J. B	Trafalgar	R.	D
Sadler, J. J	Edinburg	R.	D
Surface, O. B	Bluff Creek	R.	D
Taggart, Robert	Franklin	R.	D
Telford, W. E	Bargersville	R.	D
Wood, John C	Franklin	R.	D
Wishard, J. M	Greenwood	R.	D
Wallace, B	Franklin	R.	D
Willan, E. B	Trafalgar	R.	D
Willan, R. D	Trafalgar	R.	D
Wright, A. F	Nineveh	R.	D
WHITESIDES, L. L	Franklin	R.	D

Regular, 30; Eclectic, 3: Homeopathic, 1; not reported, 11.

Knox County.

Alsop, Thomas E.	Freelandsville	R.	D
Ashcraft, J. C	Wheatland	R.	D
Boyer, Eli	Vincennes	R.	D
Beard, Schuyler C	Vincennes	R.	D
Beard, F. W	Vincennes	R.	D
Busse, Edward P	Vincennes	R.	D
Black, Elijah C.	Wheatland	R.	3
Bever, Almira C. W	Vincennes	E.	D
Bever, John C	Vincennes	P.-M.	3
Bedell, William B	Vincennes	R.	D
Beckes, Lyman M	Vincennes	R.	D
Ballard, Joseph H	Vincennes	R.	D
Cross, John F	Decker	R.	3
Dorsey, George L.	Bicknell	R.	D
DuKate, John S	Monroe City	R.	D
DuKate, John B. D.	Wheatland	R.	D
Davenport, Wm. H.	Vincennes	R.	D
Davis, Royse	Decker	R,	D
Fairhurst, O'C. C.	Vincennes	R.	D
Grigsby, William B	Oaktown	R.	D
Harris, Francis M	Vincennes	R.	D
Harris, William B	Vincennes	R.	D
Hensley, John H	Vincennes	R.	D
Harrison, Samuel L	Vincennes	R.	3
Hunt, Thomas J	Monroe City	R.	3
Haughton, Andrew J.	Oaktown	R.	D
Jessup, Robert B.	Vincennes	R.	D
Jessup, Robert B., Jr.	Vincennes	R.	D
Keith, Benjamin F	Edwardsport	R.	D
Kessinger, Wm. E	Sanborn	R.	D
Lytton, Jefferson	Wheatland	R.	3
Martin, Zadok G	Bruceville	R.	D
Milam, John W	Bruceville	R.	D
McDowell, James M	Bruceville	R.	D
Medcalf, Wm. M.	Vincennes	H.	D
Moore, Reuben G	Vincennes	R.	D
Merritt, James N.	Emison	R.	3
McGanky, Andrew J.	Freelannsville	R.	D
McDowell, L. C.	Freelandsville	R.	D
Meyer, Herman, N. H.	Freelandsville	E.	10
McGowan, William	Oaktown	R.	10
Pugh, John W	Oaktown	R.	D
Pearce, Abner B	Vincennes	R.	D
Robbins, John F	Freelandsville	R.	D
Randolph, John A	Vincennes	R.	D
Ray, Joel W	Emison	P.-M.	10
Reeves, Joseph L.	Edwardsport	R.	D
Ricketts, Reuben R	Red Cloud	R.	10
Staley, Lewellen B.	Bricknell.	R.	D
Smith, Hubbard W.	Vincennes	R.	D
SWARTZEL, J. A.	Vincennes	R.	D
Spaulding, Thomas	Edwardsport	E.	D
Spaulding, Geo. L	Sandborn.	R.	3
Sparks, Nathan B	Monroe City	R.	10
Trueblood, J. W	Monroe City	R.	3
Von Trees, Edward C.	Monroe City	R.	D
Williams, James T.	Monroe City	E.	D
Warren, Solomon C	Vincennes	H.	D

Regular, 50; Eclectic, 4; Homeopathic, 2; Physio-Medical, 2.

Kosciusko County.

Name.	*Post Office.*	*School.*	*Name.*	*Post Office.*	*School.*
Amiss, James M	Silver Lake	R. D	Loring, Samuel C	Sidney	R. D
Becknell, Irvin J	Milford	R. D	Lancaster, Thos. A.	Sidney	R. D
BURKET, C. W	Warsaw	R. D	Moody, Theo. F	Pierceton	R. D
Burket, Benjamin	Warsaw	R. D	Moro, Francis	Warsaw	E. D
Bash, J. M	Warsaw	R. D	Marine, John W	Etna Green	P. M. D
Boydston, B. S	Clunette	E. 10	Ogle, John J	North Webster	E. 10
Byler, J. M.	Warsaw	H. D	Pierman, Francis M	Palestine	R. D
Bacon, Lyman B	Packerton	R. D	Parker, James W	Oswego	E. 10
Bowser, J. H	Syracuse	R. D	Parks, John P	Atwood	R. D
Chandler, Jos. A	Warsaw	R. 3	Peck, C. F	Leesburg	R. 10
Cammack, Thomas	Milford	R. D	Robinson, A. B.	Mentone	R. D
Clayton, Calvin M	Warsaw	E. 10	Robinson, Sarah M	Warsaw	E. 10
Dick, Milford L	Pierceton	P. M. D	Swyhart, C. M	Warsaw	P. M. D
Gregory, Geo. B	Warsaw	H. D	Swyhart, Anna	Warsaw	P. M. D
Gilpin, E. P	Milford	R. D	Scott, Wm	Pierceton	E. 10
Hayes, Wm.	Pierceton	E. D	Smith, James S.	Warsaw	P. M. D
Heffley, John W	Mentone	E. D	Snodgrass, Sam'l J.	Burket	P. M. D
Holloway, John N	Etna Green	E. D	Shackelford, T. J.	Warsaw	R. D
Hoopingarner, G. B	Sidney	R. D	Swafford, M. F	Milford	P. M. D
Hazel, John B	Claypool	R. D	Sherbondy, Geo. W	Silver Lake	E. 3
Ihrig, Francis M	Syracuse	E. D	Stockbarger, E	Mentone	R. 3
Junkin, S. B	North Webster	R. 10	Swygart, Henry M	Mentone	R. D
Johnston, E. E	Leesburg	R. D	Schoonever, Wm. R	Oswego	R. D
Johnson, A. R	Pierceton	H. 10	Terry, Percy E	Silver Lake	R. 3
King, Hiram O.	Pierceton	R. D	Tenant, Lewis H	Pierceton	E. 10
Ketcham, George	Claypool	R. D	Vaugh, Martin	Burket	R. 3
Kelly, Wm. M	Millwood	R. D	Wall, James J	Beaver Dam	P. M. D
Keehn, Levi	Milford	H. 10	White, R. Parks	Warsaw	R. D
Kiplinger, Wm.	Burket	— 10	Webber, Irvin B	Warsaw	R. 10
Long, C. R	Pierceton	R. D	Wooley, Amos	Warsaw	E. D
Love, John W	Millwood	— 10			

Regular, 33; Eclectic, 14; Homœopathic, 4; Physio-Medical, 8; not reported, 2.

Lagrange County.

Benham, Frank A	Lagrange	H. D	Price, Henry B	Woodruff	R. D
Broughton, Forbes H.	Wolcottville	R. D	Schrock, Henry W	Shore	R. D
Dayton, Geo. H.	Lima	R. D	Schrock, Josiah J	Emma	R. D
Burden, Levi	Haw Patch	E. 10	Short, Wm. H	Lagrange	R. D
Dancer, John	South Milford	R. D	Short, John L	Lagrange	R. D
Dryer, Dewigh	Lagrange	R. D	Spaulding, A. M	Brushey Prairie	R. 10
Engle, Jacob	Lagrange	N. R. 10	Strawn, E. K	Wolcottville	R. D
Ferguson, W. A	Brighton	R. D	Ruby, William	Wolcottville	E. D
Goodrich, Charles	Lima	R. D	Toms, Alphus	Scott	R. D
Grubb, W. B	Scott	N. R. 10	Thomas, Samuel A.	Lagrange	P.-M. D
Heslip, James M	South Milford	E. 10	Vaughn, Ivis J	Haw Patch	R. D
Hughes, William	Lima	R. D	Waddell, Charles.	Lagrange	R. D
McCoy, Walter T.	Mongo	R. D	WHITE, E. G	Lagrange	R. D
Newnam, H. M.	South Milford	R. D	Work, Samuel A	Wolcottville	R. D
Niman, Joseph P.	Lagrange	R. D	Youngkin Jerome A	Wolcottville	R. 10

Regular, 23; Eclectic, 3; Homeopathic, 1; Physio-Medical, 1; not reported, 2.

Lake County.

Ball, Herbert S	Crown Point	E. D	Miller, H. F. C	Hobart	R. D
Bacon, E. R	Lowell	R. D	Mackey, Richard C	Deep River	R. D
Brannon, George	Crown Point	R. D	Merrill, Warren W	Hammond	E. D
BLISS, M. G	Crown Point	E. D	Mullen, Hugh E	Hammond	R. D
Davis, John E	Lowell	R. D	Pratt, A. J	Crown Point	R. D
Gordon, Pliny P	Hobart	R. D	Pettibone, Harvey	Crown Point	R. 3
Groman, Charles	Brunswick	H. 10	Pettibone, Henry	Crown Point	R. D
Gerrish, A. A	Lowell	R. D	Phillips, Norton	Lowell	10
Higgins, John	Crown Point	R. D	Seidler, Anthony	Dyer	R. 10
Hill, Jesse D	Creston	R. D	Schreiber, W. H	Hanover Center	E. D
Iddings, H. L	Merrillville	R. D	Swartze, H. P	Crown Point	R. 10
Johnson, Edward C	Hobart	R. D	Tuisiman, Lewis L	Hammond	R. D
Koppe, John	Hammond	R. D	Vandewalker, J. G	Hammond	E. D
King, C. W	Crown Point	E. 10	Wood, James A	Lowell	R. 10

Regular, 20; Eclectic, 6; Homeopathic, 1; not reported, 1.

Laporte County.

Name.	*Post Office.*	*School.*
Annis, E. L	Laporte	R. D
Andrew, Geo. L	Laporte	R. D
Brown, D. T	Michigan City	R. D
Bowell, B. C	Rolling Prairie,	E. D
Crandall, R. O	Laporte	R. 10
Cole, E. Z	Michigan City	H. D
Calvert, R. H	Michigan City	R. D
Combs, Thos. W	Westville	H. D
Crumpacker, D. S	Union Mills	R. 10
Darling, N. S	Laporte	R. D
Dakin, Geo. M	Laporte	E. D
Ellsworth, H. N	Kingsbury	R. D
Fisher, W. H	Wanatah	R. D
Fravel, Theophilus	Westville	R. D
Fahnestock, C	Laporte	H. D
Fahnestock, A. A	Laporte	H. D
Godfrey, W. R	Michigan City	R. D
Grime, H. T	Mill Creek	R. D
Hollenbeck, B. W	Westville	E. 3
Keene, L. S	Laporte	R. D
Lambert, J. W	Laporte	R. D
Ludwig, C. H	Laporte	H. D
Martin, J. S	Rolling Praire	R. 10
Meyer, J. H. Wm	Laporte	R. D
Mullen, A. J	Michigan City	R. D
Rose, L. C	Laporte	R. D
Short, Robert B	Union Mills	R. D
Schultz, Henry	Michigan City	R. 10
Sharples, P. D	Rolling Praire	R. 10
Stevenson, A. G	Laporte	R. D
Stevens, Mrs. M. A	Laporte	E. D
Smith, Alpheus M	Hanna	P. M. D
Tillotson, A. G	Michigan City	E. D
Warren, C. R	Otis	R. D
Whiting, S. C	Laporte	H. D
Wilson, W. B	Rolling Prairie	E. 10
Wile, Jacob, Jr	Laporte	R. D

Regular, 23; Eclectic, 5; Homeopathic, 6; Physio-Medical, 1.

Lawrence County.

Allen, E. F	Fayetteville	R. 10
Burton, William A	Mitchell	R. D
Burton, George W	Mitchell	R. D
Burton, John	Huron	R. 10
Bare, A. W	Bryantsville	R. D
Butler, Wm. C	Heltonville	R. 3
Berry, A. F	Bono	R. 3
Cummings, H. A	Guthrie	R. 3
Dixon, H. C	Tunnelton	R. D
Donica, Thomas M	Fort Ritner	R. 10
Ellison, W. T	Heltonville	R. D
Faucett, J. H	Williams P. O	R. D
Faubion, James	Heltonville	R. 10
Freeland, John T.	Bedford	R. D
Gardner, Joseph	Bedford	R. D
Hunter, F. S	Fort Ritner	R. D
Hornocker, S. D	Silverville	R. 10
Johnson, James J	Bedford	R. D
Larkin, J. B	Mitchell	R. D
Lowder, Cyrus	Harrodsburgh	R.
LaForce, H. C	Bedford	R. D
McDonald, A. J	Mitchell	R. D
McIntire, E. S	Mitchell	R. D
McLahlan, O	Bartlettsville	R. 10
Meadows, Jacob	Bartlettsville	R. 10
Newland, Benj	Bedford	R. D
Newland, J. W	Bedford	R. D
Newland, C. W	Silverville	R D
Pearson, Jas. C	Mitchell	R. D
Phipps, J. M	Bedford	R. D
Rariden, Samuel A	Bedford	R. 10
Rariden, Chas. E	Bedford	R. D
Smith, Wm. H	Leesville	R. 10
Smith, S. W	Leesville	R. D
Voyles, Harvey	Fayetteville	R. D
Yost, J. L. W	Mitchell	R. D
Yandell, William	Huron	R. 10

Regular, 37.

Madison County.

Atherton, Romeo	Anderson	H. D
Armfield, J. D	Elwood	R. —
Armington, Chas. L	Chesterfield	R. 3
Alexander, Lot E	Pendleton	R. D
Broadbent, Oliver	Anderson	R. D
Brown, Martin	Summitville	R D
Brandon, J. F	Anderson	R. 3
Brickley, W. P	Anderson	P. M. 10
Brownback, O. W	Pendleton	R. D
Branch, Chas. N	Anderson	R. D
Bula, Rolla W	Anderson	N. R. 10
Boyden, W. A	Chesterfield	R. D
Chittenden, Geo. F.	Anderson	R. D
Covertson, J. W	Frankton	R. 10
Calloway, Beniah T	Elwood	R. 10
Cranfield, Martin L	Summitville	N. R. 10
Cook, Ward	Pendleton	R. D
Cullen, John C.	Anderson	R. D
Cook, John W	Pendleton	R. D
Cook, Daniel	Fishersburg	R. 10
Chiles, B. F.	Frankton	P. M. —
Clark, Thos. J	Summitville	N. R
Diven, Chas. E	Pendleton	R. D
Davidson, J. W.	Pendleton	P. M. D
Ebert, John D	Dundee	R. 10
Edwins, Stanley W	Frankton	R. D
Fernandez, Daniel H	Anderson	R. D
Fussell, Lundy B.	Markleville	R. D
French, Wm. J.	Frankton	R. D
Garretson, Will. M.	Perkinsville	R. D
Guisinger, John S	Florida	R. 10
Ginn, James F	Elwood	P. M. D
Hockett, Zimri	Anderson	H. D
Harter, Wm. P.	Anderson	R. 3
Hunt, John W	Alexandria	R. D
Harter, Jacob H	Anderson	R. 3
Hunt, Wm. A.	Anderson	R. 3
Hunt, Thos. M	Summitville	E. 3
Huston, A. S	Pendleton	P. M. D
Hilligoss, G. N	Lapelle	R. 3
Hougham, John S	Perkinsville	E. D
JONES, HORACE E	Anderson	R. D
Milliken, Jabez H	Elwood	R. D
Marlow, Austin F	Summitville	P. M. D
Lewis, Walter H	Pendleton	R. D
McGrannahan, G. W	Anderson	R. D
McNutt, G. F.	Elwood	R. D
Nuzum, David P	Elwood	E. 3
Perry, Andrew J	Alexandria	R. 3
Perry, John W	Alexandria	R. D
Pugh, Joseph W	Alexandria	R. D
Pugh, Joseph	Alexandria	R. 3
Petro, Benj. L	Ovid	R. 10
Rogers, Ellen P	Pendleton	H. 10
Redding, — —	Anderson	P. M. —
Rider, D. M	Anderson	R. 10
Stewart, Jonas	Anderson	R. D
Sigler, Daniel	Elwood	R. D
Swallow, Geo. E	Summitville	R. D
Sims, Thos. S.	Elwood	E. 10
Suman, Wm	Anderson	R. 3
Saunders, Joseph	Anderson	R. D
Spann, B. F	Anderson	R. D
Van Metre, Isaac N	Florida	R. 3
Wickersham, Noah L.	Anderson	R. D

Regular, 48; Eclectic, 4; Homeopathic, 3; Physio-Medical, 7; not reported, 3.

Marion County.

Name.	*Post Office.*	*School.*	
Abbett, Chas. H	Indianapolis	E.	3
Abbett, Francis M	Indianapolis	E.	D
Abbett, Lawson	Indianapolis	E.	D
Allen, Horace R	Indianapolis	R.	3
Allen, Wesley	West Newton	R.	D
Anderson, Jas. E	Indianapolis	R.	D
Anthony, Emanuel	Indianapolis,	P.M.	D
Bacon, Edgar H	Indianapolis	H.	10
Bailey, Wm. P	Southport	R.	D
Baker, A. B	Indianapolis	E.	D
Ball, Addison W	Indianapolis	R.	D
Ballard, Joseph	Indianapolis	R.	D
Barbour, O. P	Indianapolis	R.	D
Barnes, Chas. A	Southport	R.	D
Barnes, Henry F	Indianapolis	R.	D
Barrett, Jas. L	Indianapolis,N.	R.	—
Bates, Joseph W	Broad Ripple	R.	D
Baughman, S. S	Indianapolis	R.	D
Bedford, C. T	Indianapolis,	P.M.	D
Beebinger, John	Cumberland	R.	D
Bell, Guido	Indianapolis	R.	D
Bennett, Peter S	Indianapolis	R.	10
Bentley, W. R	Indianapolis	H.	D
Bigger, Robert H	Indianapolis	R.	D
Bigger, Richard T	Indianapolis	R.	D
Blair, Wm. F	Indianapolis, N.	R.	—
Blits, A	Indianapolis	R.	D
Bobbs, Andrew J	Indianapolis	R.	D
Boland, K. H	Indianapolis	R.	D
Bowers, John V	Millersville	R.	D
Boyce, L. E		R.	D
Boyd, Jas. T	Indianapolis	H.	D
Boyd, L. E	Indianapolis	R.	D
Boyden, Wilber A	Indianapolis	R.	D
Brayton, Alembert	Indianapolis	R.	D
Brennan, Edward J	Indianapolis	R.	D
Briggs, Elmer	Indianapolis	H.	D
Blu, Uriah L	Indianapolis	E.	10
Brown, Corydon	Gallaudet	H.	D
Brown, Geo. J	Indianapolis	R.	3
Brown, John R	Insane Hospital,	R.	D
Brown John S	Indianapolis	R.	3
Brown, Josiah L	Indianapolis	R.	D
Brown, Sam'l M	Gallaudet	R.	10
Browne, Henry J	Indianapolis	R.	D
Browning, Wm. J	Indianapolis	R.	D
Browning, Wm. M		R.	D
Bryan, Thos. N	Indianapolis	R.	D
Bryan, David C	Indianapolis	R.	D
Bryant, James	Indianapolis,N.	R.	10
Brynes, Dan'l C	Indianapolis	R.	D
Bula, Rolla W	Indianapolis		10
Burford, J. T	Indianapolis	R.	D
Butterfield, S. A	Indianapolis	R.	D
Butterfield, W. W	Indianapolis	R.	D
Cain, J. C.	Haughville	R.	D
Campbell, Levi S	Indianapolis	R.	D
Cameron, J. J	Indianapolis	—	D
Carter, Jas	Indianapolis	—	3
Carter, Nathan P.	Mapleton	R.	D
Carey, Geo. A.	Indianapolis	R.	D
Cary, E. E	Indianapolis	R.	D
Carson, L. O	Trader's Point	R.	D
Case, L. B	Indianapolis	R.	3
Carwin, James M.	Indianapolis	?	10
Chambers, John	Indianapolis	R.	D
Clark, Wm. H.	Indianapolis	R.	10
Clemmer, F. O	Indianapolis	H.	D
Cline, L. C	Indianapolis	R.	D
Cloud, Caleb S	Indianapolis	?	10
Cable, Geo. A.	New Augusta	R.	D
Combs, Geo. W.	Indianapolis	R.	D
Comingore, John A	Indianapolis	R.	D
Cook, Geo. J	Indianapolis	R.	D
Collins, Wm. F.	Cumberland	R.	10
Compton, J. A	Indianapolis	H.	D
Conner, Wm. H.	Indianapolis	—	10
Cooper, Chas. A	Indianapolis	?	10
Cooper, Wm. C.	Indianapolis	E.	D
Cory, Andrew F	Oaklandon	E.	D
Cox, Joseph	Indianapolis	R.	D
Cox, Stephen	Indianapolis	R.	D
Cress, John B.	Indianapolis	E.	D
Crist, D. O	Indianapolis	R.	D
Culbertson, John	Indianapolis N.	R.	10
Culver, Thos. M.	Indianapolis	E.	D
Cunningham, H. S	Indianapolis	R.	D
Curry, Thos. W.	Southport	R.	
Daniels, E. A.	Indianapolis	R.	
Darrach, Geo. W	Cumberland	R.	D
Daugherty, John H.	Irvington	R.	D
Davis, R. A.	Indianapolis	R.	D
Davis, Wm. C.	Indianapolis	R.	D
Denke-Walter, F. W.	Indianapolis	R.	D
Denson, H. A.	Indianapolis	R.	D
DePuy, A. H	Indianapolis	E.	D
Divens, C. W	Indianapolis	E.	3
Duncan, Hiram.	Indianapolis	R	D
Dunlap, John M	Indianapolis	R.	D
Dunn, Joseph R.	Indianapolis N.	R.	3
Dunning, James H.	Indianapolis	R.	D
Earp, S. E	Indianapolis	R.	D
Eastman, Joseph	Indianapolis	R.	D
Ebberts, J. A	Indianapolis	R.	D
Edenharter, G. S	Indianapolis	R.	D
Elbert, S. A.	Indianapolis	R.	D
Elder, Elijah S	Indianapolis	R.	D
Ellis, Wilson	Indianapolis	R.	D
Ewing, C. K	Malott Park	R.	D
Farber, James H	Indianapolis	R.	D
Farmer, Sam'l W.	Indianapolis	E.	D
Feree, Frank M	Indianapolis	R.	D
Feree, S. W	Indianapolis	R.	D
Ferguson, Frank	Indianapolis	R.	D
French, Mullen E.	Indianapolis	R.	D
Field, E. N	Cumberland	R.	D
FIELD, M. H	Indianapolis	R.	D
Fisher, A. W	Indianapolis.	P. M.	D
Fletcher, C. I.	Indianapolis	R.	D
Fletcher, Wm. B	Indianapolis	R.	D
French, Mattie J.	Indianapolis	R.	D
Freitshe, John M.	Indianapolis	H.	10
Frink, C. W.	Indianapolis	R.	D
Galloway, Clinton	Indianapolis	R.	D
Garrison, James	Indianapolis. N.	R.	
Garver, John J.	Indianapolis	R.	D
Gill, John	Indianapolis N.	R.	10
Ging, Wm.	Indianapolis	P. M.	3
Gooden, Wm. F.		R.	D
Graeter, G. A.	Indianapolis	R.	D
Gray, Wm	Indianapolis	R.	D
Graydon, R. G	Southport	R.	D
Griggs, Oscar B.	Bridgeport	R.	D
Hadley, Evan	Indianapolis	R.	D
Haggart, David	Indianapolis	H.	D
Hart, W. M.	Indianapolis	P. M.	D
Harvey, Thos. B	Indianapolis	R.	D
Harvey, Wm. D	Indianapolis	R.	D
Hasty, Geo	Indianapolis.	P. M.	D
Haugh, John A.	Indianapolis	R.	D
Haynes, John R.	Indianapolis	H.	D
Hays, F. W	Indianapolis	R.	D
Hoil, Chas. P	Indianapolis	E.	D
Holming, H.	Indianapolis N.	R.	10
Holtman, J. K	Oaklandon	R.	D
Hendricks, H. W	Indianapolis	E.	D
Henthorne, L. S	Indianapolis	R.	D
Hervey, Edwin V		R.	D
Hervey, Jas. W	Indianapolis	R.	D
Hettinger, J. B.	Indianapolis	(?)	D
Hinshaw, Thos	Nora	R.	D
Hodges, Edward F	Indianapolis	R.	D
Hopkins, A. G		R.	D
Houser, James A	Indianapolis	E.	D

Marion County—Continued.

Name.	*Post Office.*	*School.*	
Hoover, John E	Indianapolis	R.	D
Hoss, Jacob V	Indianapolis	R.	D
Howard, Edward.	Indianapolis	E.	D
Hurley, M. F.	Indianapolis	E.	3
Jameson, P. H	Indianapolis	R.	D
Jameson, Henry	Indianapolis	R.	D
Jeffries, W. E.	Indianapolis	R.	D
Jones, Stephen.	Indianapolis	E.	D
Johnson, R	Indianapolis	R.	D
Johnson, W. H	Brightwood.	R.	D
Jordan, Jno. S	Indianapolis	E.	D
Karstetter, Wm. B	N. Indianapolis	R.	D
Keen, Daniel V	Indianapolis	N.	R
Kendal, R. A.	Indianapolis	N.	R
Kennedy, John Y	Acton.	R.	D
Kendleberger, W. H	Indianapolis	R	D
Kendrick, W. M	Indianapolis	E.	D
Kerley, R. M	Indianapolis	R.	D
Kitchen, John M.	Indianapolis	R.	D
Kidd, W. J	Indianapolis	E.	D
Kiskaddin, Henry	Indianapolis	—	D
Koch, A. J	Indianapolis.	P. M.	D
Krumrine, J. A	Irvington.	R.	D
Lampton, G. W	Indianapolis	—	10
Laycock, R. T	Indianapolis	E.	D
Lewis, James	Indianapolis	—	D
Lockridge, Jno. E	Indianapolis	R.	D
Long, Henry	Indianapolis	E.	D
Long, John B	Indianapolis	R.	D
Long, R. W.	Irvington.	R.	D
Loper, F. M	Indianapolis	E.	D
Lutz, Geo. W.	Indianapolis	R.	D
Manker, F. E.	Indianapolis	R.	D
Mapes, Smith H	Lawrence.	R.	D
Martin, Francis	Indianapolis	R.	D
Martin, W. F	Indianapolis	R.	D
Marsee, Joseph W	Indianapolis	R.	D
Maxwell, Allison.	Indianapolis	R.	D
Mendenhall, A. B	Indianapolis	R.	D
Mendenhall, Elijah	Indianapolis	R.	D
Metcalf, Chas. N	Indianapolis	R.	D
Mills, Seth	Valley Mills	R.	D
Miller, Edward.	Indianapolis	—	10
Minich, James	Indianapolis	R.	D
Moffett, E D	Indianapolis	R.	D
Moffett, N. C	Indianapolis	E.	D
Monroe, Jasper.	Indianapolis	R.	D
Moore, Mark W	Indianapolis	R.	D
Moore, S. H	Indianapolis	R.	D
Moore, Thos	Indianapolis	—	3
Moore, Wm. G	Indianapolis	R.	D
Morgan, W. V	Indianapolis	R.	D
Morrison, F. A	Indianapolis	R.	D
Morrow, J. E	Indianapolis	R.	D
Mühl, Emil.	Indianapolis	R.	D
McCabe, Henry.	Indianapolis	E.	D
McClure, C. B	Indianapolis	R.	D
McConnell, L. C	Indianapolis	R.	D
McDonald, W. B	New Augusta.	R.	D
McGaughey, Samuel	Acton.	R.	D
McLain, L. C.	Indianapolis	R	D
McNutt, W. Y	Indianapolis	R.	D
Neff, David	Indianapolis N.	R.	10
New, Geo. W	Indianapolis	R.	D
Newcomer, F. S	Indianapolis	R.	D
Nesbit, Joseph A	Castleton	R.	D
Noble Edward	Indianapolis	E.	D
Oliver, D. H	Indianapolis	R.	D
Oliver, J. H	Indianapolis	R.	D
Park, H. A. S	Indianapolis	E.	D
Partlow, Jno. W	Indianapolis	R,	D
Parsons, Jno. S	Indianapolis N.	R.	10
Pattersons, A. W	Indianapolis	R.	D
Pantzer, H. O	Indianapolis	R.	D
Payne, Jas. H	Julietta.	R.	D
Peachee, Harrison	Maywood.	R.	10
Pearson, C. D	Indianapolis	R.	D

Name.	*Post Office.*	*School.*	
Perry, Ralph	Indianapolis	R.	D
Pfaff, O. G	Indianapolis	R.	D
Pettijohn, O. B	Indianapolis	R.	D
Pickerell, Geo. W	Indianapolis	E.	D
Pink, Herman	Indianapolis	R.	D
Porter, E. D	Indianapolis	R.	D
Prunk, D. H	Indianapolis	E.	D
Purman, D. M	Indianapolis	R.	D
Ratcliff, Barclay	West Newton	R.	D
Reynolds, Geo. W	Indianapolis	R.	D
Reade, Jeremiah	Traders Point	R.	D
Records, Samuel	Lawrence.	R.	D
Reyer, E. C	Hosp'l Insane	R.	D
Ridpath, H. W	Indianapolis	R.	D
Robeson, Wm. C	Indianapolis	R.	D
Roberts, Russel A	City Hospital	R.	D
Robertson, D. W		R.	D
Robbins, Wesley	Indianapolis	E.	D
Robinson, W. J	Indianapolis	E.	D
Roesgen, Jno. P	Indianapolis		10
Rooker, Jas. I	Castleton	R.	D
Rooker, C. N	Indianapolis	R.	D
Rowe, L. M	Indianapolis	R.	D
Rowley, Wm	Indianapolis	H.	D
Rubrush, T. R	Indianapolis	R.	D
Rutledge, W. V	Indianapolis	E.	D
Runnels, O. S	Indianapolis	H.	D
Runnels, Sollis	Indianapolis	H.	D
Sarber, W. H	Indianapolis	E.	D
Schmidt, E	Indianapolis	E.	D
Selman, A. G	Indianapolis		10
Semple, W. T	Indianapolis	R.	D
Serrin, Jas. E	Indianapolis	R.	D
Sellers, T. P	Indianapolis	R.	D
Sharp, C. C	Indianapolis	E.	D
Silvey, Hilary	Castleton		3
Sims, J. T		R.	D
Singleton, J. H	City Hospital	R.	D
Smith, A. J	N. Indianapolis,	R.	D
Snowden, Jesse	N. Indianapolis,	R.	D
Spees, Geo. W	Glenn's Valley,	R.	D
Spicer, J. W	Acton	R.	D
Spink, M. A	Indianapolis	R.	D
Stillson, Joseph	Indianapolis	R.	D
Stockton, Sarah	Insane Hospital,	R.	D
Stratford, Alfred	Indianapolis	R.	D
Stratford, Isaac W	Indianapolis	R.	D
Stein, Frederick	Indianapolis	R.	D
Stone, R. French	Indianapolis	R.	D
Sutcliff, John F	Indianapolis	R.	D
Swain, Rachel	Indianapolis	E.	D
Taylor, Jas. H	Indianapolis	R.	D
Thomas, A. J	Insane Hospital,	R.	D
Thomas, E. C	Haughville	R.	D
Thomas, W. H	Indianapolis	R.	D
Thompson, O. A	Indianapolis	R.	D
Thompson, Jas. L	Indianapolis	R.	D
Thompson, W. C	Indianapolis	R.	D
Todd, L. L	Indianapolis	R.	D
Tolly, W. V	Indianapolis	R.	D
Vernon, Geo. W	Indianapolis	R.	D
Vickery, James	Indianapolis	R.	D
Wagner, Theo. A	Indianapolis	R.	D
Waide, Robt	Indianapolis,	P.M.	D
Walker, I. C	Indianapolis	R.	D
Walker, John C	Indianapolis	R.	D
Walker, Joseph B	Indianapolis	R.	D
Wall, David	Clermont	R.	D
Wall, Jas. S	Haughville	E.	D
Watters, P. J	Indianapolis	R.	D
Warner, W. H	Indianapolis	R.	D
Wands, Wm	Indianapolis	R.	D
Ward, A. O	Indianapolis	R.	D
Waterman, Luther D	Indianapolis	R.	D
Watson, T. N	Indianapolis	R.	D
Webb, Joshua	Indianapolis		10
Weiss, C. G	Indianapolis	R.	D

Marion County—Continued.

Name.	*Post Office.*	*School.*
Westhoelter, C. A	Indianapolis	3
White, A. R	Indianapolis	R. D
White, S. M	Indianapolis	P. M. D
Williams, Jas. R	W. Indianapolis	10
Williams, R. T	Indianapolis	10
Wishard Joseph	Indianapolis	R. D
Wishard, W. H	Indianapolis	R. D
Wishard, W. N	Indianapolis	R. D
Wilson, Amos L	Indianapolis	R. D
Wilson, C. A	Indianapolis	R. D
Wilson, C. L	Indianapolis	R. D
Woehrman, E. A	Indianapolis	H. D
Wood, Clare	Haughville	E. D
Wood, Levi	Indianapolis	P. M. D
Wood, N. V	Indianapolis	R. D
Woodburn, Jas. H	Indianapolis	R. D
Woodburn, F. C.	Indianapolis	R. D
Woodard, N. D.	Indianapolis	P. M. D
Woodward, S. G	Indianapolis	R. D
Woollen, G. V.	Indianapolis	R. D
Wright, C. E	Indianapolis	R. D
Yoke, Chas	Bridgeport	R. D
Young, James	Indianapolis	— 10

Regular, 237; Eclectic, 36; Homeopathic, 11; Physio-Medical, 11; Not Reported, 25.

Marshall County.

Name.	*Post Office.*	*School.*
Babcock, Isaac L	Maxinkuckee	E. D
Bower, Isaiah	Plymouth	R. 10
Boston, T. A	Plymouth	R. 10
Baker, Joseph	Plymouth	E. 10
Bell, John F	Inwood	R. 10
Brooke, Jarred E	Plymouth	R. D
Caillat, Victor	Argos	R. 10
Chapman, Clark	Argos	E. 10
Deitrich, Wm. A	Bremen	R. D
Denniston, Jas. M	LaPaz	R. 10
Dillenius, Erwin	Bourbon	R. D
Eidson, J. W	Bourbon	R. D
Eaton, Reason B	Argos	R. 10
Eley, Lorenzo D	Ilion	R. D
France, Sam'l	Bourbon	R. D
Gould, S. W	Argos	R. D
Holtzendorff, A. C	Plymouth	R. D
Hamilton, John J	LaPaz	R. D
Johnson, Luther	Bourbon	R. 10
Knott, David C	Burr Oak	E. D
Kiser, James H	Inwood	R. D
Kiesewetter, P. Hugo	Bremen	R. D
Linn, Timothy T	Bourbon	R. D
Moore, Allen	LaPaz	R. D
Matchette, A. C	Bourbon	R. D
Moore, Chas. W	Tyner City	R. D
Neville, R	Teegarden	R. 10
Oyler, Wm. A	Argos	E. 3
Peck, Mary E	Bourbon	R 3
Pocock, Elias H	Walnut	R. D
Richey, Sam'l R	Donaldson	R. 10
Rea, Oliver A	Marmont	R. D
REYNOLDS, GEO. R.	Plymouth	R. D
Sutton, Jas. A	Argos	R. 10
Spencer, Joseph	Ilion	E. 10
Tripp, Franklin	Bremen	E. 10
Victs, E. W	Plymouth	H. D
Wiseman, B. W. S	Marmont	R. D
Wahl, G. Franklin	Bremen	R. D
Wilson, Jas. H	Plymouth	R. D
Younkman, A. B	Bremen	R. D

Regular, 33; Eclectic, 7; Homeopathic, 1.

Martin County.

Name.	*Post Office.*	*School.*
Brittain, S. H	Loogootee	R. D
Campbell, J. C. L	Loogootee	R D
Evans, Wm	Loogootee	R. 10
Dollins, T. C	Trinity Springs	R. 10
Gray, William	South Martin	R. 10
Malott, George F	Trinity Springs	R. 10
McNabb, O. H	Hicks Church	R. 10
Plummer, I. N	Shoals	R. D
Plummer, R. S	Shoals	R. D
Porter, A. W	Loogootee	E. D
Shirley, Henry W	Shoals	R. D
SIMS, JASPER N	Dover Hill	E. 10
Trueblood, J. C	Loogootee	R. D
Thomas, W. J	Hicks Church	R. 10
Walls, G. W	Shoals	R. D

Regular, 13; Eclectic, 2.

Miami County.

Name.	*Post Office.*	*School.*
Alford, Henry	Peru	R. 10
Ager, U. A	Peru	R. D
Armstrong, W. K.	Mexico	R. 3
Armstrong, A.	Miami	R. 10
Baldwin, J. A.	Amboy	E. 10
Belew, John C	Chili	E. 10
Barnes, John	Macy	N. R. 10
Boggs, Milton	Macy	R. 10
Brenton, W. H	Peru	R. D
BLOOMFIELD, E. M.	Peru	R. D
Brower, Joseph	Deedsville	E. D
Coldron, W		P. M. D
Coe, A. D.	Mexico	R. D
Campbell, E. L.	Miami	R. 3
Davis, L. H.	Miami	E. D
Davis, G. W.	Miami	E. D
Friermood, E. K	Amboy	R. D
Frits, J. C.	Deedsville	R. 3
Graham, B. R	Peru	R. D
Gray, A. J	North Grove	R. 3
Higgins, C. B	Peru	R. D
Helm, John H	Peru	R. D
Helm, C. J	Peru	R. D
Ijams, Thos. F	North Grove	R. D
Kelsey, Jeremiah S.	Xenia	R. D
Kersey, J. B.	Xenia	P. M. 3
LaDue, John	Denver	R. 10
Lawshe, J. T	Wawpecong	R. D
Litzenberger, D. P	Xenia	R. 3
Marsh, S. S	Peru	R. D
Meek, James A	Bunker Hill	R. D
Maughmer, G. C	Wawpecong	R. D

Miami County—Continued.

Name	Post Office.	School.	
McDowell, H. P.	Bunker Hill	R.	D
Mendenhall, A. O	Xenia	R.	D
Newell, Jay M	Denver	R.	D
Peters, John B	Macy N.	R.	10
Pence, Rollin	Peru	R.	10
Passage, Henry V.	Peru	R.	D
Rutherford, C. E	Peru	H.	D
Ramsey, L. G.	Peru	R.	D
Robbins, J. Q. A	Denver	R.	D
Ridenour, David	Chili	R.	D
Renert, John F.	Peru	E.	D
Roberts, J. S	Denver	R.	D
Smith, R. W	Xenia	R.	D
Smith, A. F.	Wawpecong	R.	D
Stafford, M. A.	Peru	H.	3
Stafford, Isabel A.	Peru	H.	D
Sutton, E. H	Macy	R.	10
Spooner, Jared	Peru	R.	D
Snook, O. F.	Denver	R.	10
Skinner, Howard D.	Denver	R.	D
Stewart, F. C	Peru	H.	D
Ward, J. O	Peru	R.	D
Watkins, F. W	Peru	E.	10
Wilson, W. T.	Bunker Hill	R.	D
Wareham, J. W.	Gilead	R.	10
Waite, J. C	Chili	R.	D
Wilson, J. S.	Macy	E.	3

Regular, 43; Eclectic, 8; Homeopathic, 3; Physio-Medical, 2; not reported, 1.

Monroe County.

AXTELL, A. J.	Bloomington	R.	10
Bryan, G. W	Bloomington	R.	D
Barrow, D. W	Unionville	R.	3
Branam, Jonathan	Bryant's Creek.	E.	10
Blackwell, G. B	South Grange.	E.	D
Bennington, J. C.	Unionville	—	10
Dodd, James	Clear Creek.	R.	D
Farr, A. C	Bryant's Creek.	R.	3
Gaston, J. H	Bloomington	R.	D
Gray, O. F	Whitehall.	R.	D
Harris, J. E	Bloomington	R.	D
Harris, R. C	Ellettsville	R.	10
Harris, J. J.	Stinesville	R.	10
Humston, S. R	Smithville	R.	10
Judah, W. P	Stinesville	R.	10
Judah, M. T	Gent	R.	3
Lowder, L. T	Harrodsburg	R.	D
Maxwell, J. D., Sr	Bloomington	R.	D
Maxwell, J. D., Jr	Bloomington	R.	D
Munson, G. H	Stanford	R.	D
McPheeters, J. G., Sr	Bloomington	R.	10
Oliphant, P. T	Buena Vista	E.	3
Pressley, I. N.	Ellettsville	R.	D
Rice, N. S	South Union	E.	D
Ross, J. J. C	Belmont	R.	D
Spencer, A. C.	Unionville	R.	D
Simpson, J. D	Bloomington	R.	D
Smith, J. T	Harrodsburg	R.	D
Tourner, J. P.	Bloomington	R.	3
Weir, R. M	Bloomington	R.	D
Whitted, W. L	Ellettsville	R.	D
Warring, J. M	Smithville	R.	10

Regular, 27; Eclectic, 4; not reported, 1.

Montgomery County.

Beatty, James L	New Market	R.	D
Brown, L. F	Alamo	R.	D
Berryman, James A	Potato Creek	R.	10
Brown, Iral L	Alamo	R.	D
Black, Dayton R	New Richmond.	R.	D
Burroughs, Wm. H	Shannondale	R.	D
Bowers, Homer	New Ross	R.	3
Bronaugh, Charles F	New Ross	R.	D
Bell, Zopher	Waveland	R.	D
Bilbo, John W	Waveland	R.	3
Barnes, Dawson E	Crawfordsville	E.	D
COWAN, ED. H	Crawfordsville	R.	D
Chambers, William B.	Crawfordsville	H.	D
Culver, Dudley M	Waynetown	R.	D
Currie, John H	Darlington	R.	10
Claypool, Joseph S	Waynetown	R	3
Detchon, Irwin A	Crawfordsville	R.	D
Dingman, James O	Linden	R.	D
Dewey, George W	Crawfordsville	R.	3
Detchon, Stow S	New Richmond.	R.	10
Detchon, Elliott	Crawfordsville	R.	3
Duncan, Joseph R	Crawfordsville	E.	D
Drake, Moses C	Ladoga	R.	D
Dunlavy, Ira C	Waveland	R.	D
Dunnington, R'b'n C.	Crawfordsville	R.	D
Davidson, Jesse F	Yountsville.	R.	D
Eddingfield, Geo. W	Mace	R.	D
Etter, Jacob R	Crawfordsville	R.	D
Ensminger, Samuel L	Crawfordsville	R.	D
Ensminger, John A	Whitlock	R.	D
Gott, William T	Crawfordsville	H.	D
Griffith, Martha E. H	Crawfordsville	R.	D
Griffith, Thomas J	Crawfordsville	R.	D
Hutchings, Benj. F	Crawfordsville	R.	D
Henry, Abijah F	Crawfordsville	R.	D
Hoover, Mary	Crawfordsville	N.	R
Hillis, James D	Darlington	R.	D
Hurt, William J	Waynetown	R.	D
Hamilton, Albert N	Waynetown	R.	D
Hyten, W. H	Parkersburg	R.	10
Irwin, Samuel G	Crawfordsville	R.	D
Jones, Oliver H	Crawfordsville	R.	D
Keegan, Enoch W	Crawfordsville	R.	D
Keeney, Henry	Linden	R.	10
Kleiser, Arthur J	Waveland	R.	D
King, Richard F	New Ross	R.	D
Kirkpatrick, Chas. S	Ladoga	R.	D
Layne, Preston M	Cr'wf'dsville N.	R.	10
Lewis, Edwin R	Crawfordsville	R.	D
Montague, Fred T	Cr'wf'dsville N.	R.	10
May, Willis L	Crawfordsville	R.	D
Mahorney, John C	Ladoga	H.	D
Motter, Thomas S	Waveland	E.	10
McMechan, James G	Crawfordsville	R.	D
McClelland, Fanny	Crawfordsville	[illegible]	3
McCarty, William T	Ladoga	R.	D
Naylor, I. E. G	Darlington	R.	10
Olin, Leverette W	Elmdale	R.	D
Oxley, Joseph H	Whitlock N.	R.	10
Olinger, David F	Br'n's V'll'y N.	R.	3

Montgomery County—Continued.

Name.	*Post Office.*	*School.*
Owsley, William J	Darlington	R. D
Purviance, Samuel W	Crawfordsville	R. D
Ristine, Warren H	Crawfordsville	R. D
Russell, Joseph P	Waveland	R. 10
Rankin, Charles E	Crawfordsville	R. D
Straughan, John W	Parkersburg	R. D
Straughan, Kent K	Brown's Valley	R. D
Shannon, John J	Shannondale	R. 10
Sutherlin, James F.	Ladoga	R. D
Smith, John W	Crawfordsville	R. D
Steele, William W	Waveland	R. D
Taylor, John N	Crawfordsville	H. D
Thornberry, John R	Crawfordsville	R. 10
Talbot, Jesse N	Alamo	R. D
Trembley, Daniel G	Mace	E. D
Tucker, George W	Bowers	R. 3
Wilbite, Mary H	Crawfordsville	E. D
Washburn, Elihu P	Linden	R. D
Washburn, Doctor M	New Richmond	R. 10
Wilson, John B	Ladoga	R. D
Walden, Charles H	New Market	R. 3
Williams, George T	Brown's Valley	R. D
Willan, Ira C	Whitesville	R. D
Young, Dudley	New Market	R. 3

Regular, 70; Eclectic, 5; Homeopathic, 4; not reported, 5.

Morgan County.

Name.	*Post Office.*	*School.*
Blackstone, B. D	Martinsville	R. D
Banta, Wm. C	Martinsville	R. 10
Cure, Hiram W	Martinsville	R. 10
Farr, U. H	Martinsville	R. D
Gravis, Charles M	Martinsville	R. D
Griggs, Oscar B	Brooklyn	R. D
Green, Elijah V	Martinsville	R. D
Green, James L	Morgantown	R. D
Grim, J. G	Waverly	R. D
Griffitt, Reuben C	Morgantown	R. D
Holaday, Thomas F	Monrovia	R. D
Hendricks, Walter C	Martinsville	R. D
Holman, Charles C	Hall	R. 10
Horton, Ellis	Monrovia	R. D
Henson, Theo	Alaska	R. D
Jones, Howard C	Hall	R. D
Johnson, Jarvis J	Martinsville	R. D
KESSINGER, C. A	Martinsville	R. D
Kennedy, D. P	Martinsville	E. D
Kennedy, John	Paragon	E. 10
Knight, James H	Morgantown	R. D
Leathers, D. A	Mooresville	R. 3
Lindley, C. M.	Brooklyn	R. D
McNabb, Philip	Mooresville	R. D
Monical, Grant S.	Brooklyn	R. D
Murphy, William H	Morgantown	R. D
Miller, G. W	Martinsville	R. 10
Perce, B. W.	Mooresville	R. D
Prather, William E.	Mahalasville	R. 10
Pottorff, William A.	Eminence	R. D
Robinson, H. C.	Martinsville	R. D
Robbins, Clark	Mooresville	R. 10
Reagan, Amos W.	Mooresville	R. D
Rundell, S. X	Cope	R. D
Shields, William D.	Eminence	R. D
Stuckey, Thomas E	Mooresville	R. D
Seaton, Charles	Martinsville	R. D
Seaton, Grafton W.	Hall	R. D
Tarleton, R. H	Martinsville	R. D
Tilford, Salem A	Martinsville	R. D
Tilford, B. W.	Martinsville	R. D
Thompson, T. L	Monrovia	R. D
Vincent, J. K.	Waverly	R. D
Wharton, James O	Waverly	R. D
Williamson, R. B	Paragon	R. D
Willin, Ira C	Morgantown	R. D
Williams, Keylon H	Cope	R. D
Willins, Sarah E	Martinsville	R. D

Regular, 46; Eclectic, 2.

Newton County.

Name.	*Post Office.*	*School.*
Beckner, J. F	Kentland	R. D
Boice, R. B	Kentland	R. D
Chaffee, J. C. M	Kentland	H. D
Combs, M. R	Kentland	R. D
Caldwell, S. N	Mt. Ayr.	H. D
Coppock, Anson	Goodland	R. D
Clymer, Kever	Goodland	E. —
Hatch, J. A.	Kentland	R. D
Humston, M. L.	Goodland	R. D
Kellog, O. A	Kentland	R. D
Pratt, Laura M.	Goodland	R. D
Pratt, Benj. W	Goodland	R. D
McCain, R. C.	Kentland	E. D
Recher, L. H	Morrocco	R. D
Ransford, Geo	Lake Village	R. 10
SMITH, G. B.	Foresman	R. D
Triplet, C. E	Morocco	R. D
VanDuzen, A. J	Kentland	H. —

Regular, 13; Eclectic, 2; Homeopathic, 3.

Noble County.

Name.	*Post Office.*	*School.*
Abel, Lem. F.	Kendallville	R. 10
Bowker, James J.	LaOtto	R. D
Buchtel, Mary M.	Ligonier	R. 10
Bartley, B. W	Kendallville	E. D
Bourie, David P	Ligonier.	N. R. 10
Carr, George W	Ligonier	R. D
De Pew, E. W	Wolf Lake	R. 10
Dunlap, Robert	Kendallville	E. 3
Ellis, C. J. F	Ligonier	H. D
Forrey, Benj. F	Wawaka	R. D
Franks, Wm. H	Brimfield.	R. D
Gilbert, Joseph L	Kendallville	R. D
Gants, John	Cromwell.	E. D
Green, Thomas C.	Albion	R. D
Green, Wm. T	Albion	R. D
HAYS, JOHN W.	Albion	R. D
Isbell, Philander C.	Kendallville	R. 10
Kester, Richard S	Avilla	H. D
Knepper, Edwin W	Ligonier	R. 10
Lemmon, S. W	Albion	R. D
Mitchell, William K	Ligonier	R. D
Moore, Nathan B	Merriam	R. 10
Maloney, Francis C	Avilla	R. D
Newton, Warren E.	Ligonier	H. D
Nifer, Frank J	Brimfield	E. D
Olds, Wm. B	Kendallville	E. D
Ohlwine, Ed. C.	Merriam	R. D
Palmeter, C	Ligonier	R. 10
Reiff, Nathan G	Albion	H. D
Ruth, Henry	Kendallville	E. 10
Shobe, William A	Ligonier	R. D
Strawn, Enos K	Wolcottville	R. D
Seymore, Calvin	Wawaka	R. D
Shock, Henry W	Rome City.	N. R. 10
Schlotterback, Eli L	Ligonier	R. 3
Smith, Jacob F.	Rome City.	N. R. 10
Woodruff, Geo. S.	Ligonier	E. 10
Williams, Warren S	Kendallville	R. D
Williams, S. T	Kendallville	E. D
Williams, Nathan	Kendallville	E. 10
Wilson, David C	Kendallville	E. D
Wyatt, Andrew R	Rome City	P. M. D
Williams, Robert Sr	Rome City	R. 10
Williams, Robert Jr	Rome City	R. 3

Regular, 26; Eclectic, 10; Homeopathic, 4; Physio-Medical, 1; not reported, 3.

Ohio County.

Alden, Thos. E	Rising Sun	R. 3
Craig, Wm. H	Rising Sun	R. 3
Craig, Sam'l W	Rising Sun	R. D
GILLESPIE, WM	Rising Sun	R. D
Langsdale, Robt. G	Rising Sun	R. D
Miller, Jas. B	Hartford	R. 10
Rockafellow, W. A	Guionville	R. 3
Stevenson, Geo. A	Rising Sun	R. D
Sullivan, Wm. H	Rising Sun	R. D
Spaulding, John	Hartford	R. D
Wilson, Nathan H	Guionville	R. 3

Regular, 11.

Orange County.

Baker, Jas	Stamper's Cr'k,	R. 3
Bowles, L. F	Paoli	R. 1 C. and 10
Brent, Wm	Newton Stewart,	R. D
Boyd, C. L	Bromer	R. D
Carter, G. P	Orangeville	R. D
Ellis, Wm. D	Young's Creek,	R. 10
Gilliatt, Wm. B	Young's Creek,	R. D
Hackney, W. R	Orleans	R. 10
Hon, B. J	Orleans	R. D
HON, U. H	Paoli	R. D
Hazlewood, Geo. R	Valeene	R. D
Hazlewood, Green	Chambersburg	R. D
Hunt, F. P	Leipsic	R. 1 course
Kochenour, Wm. P	Rego	R. D
Laughlin, E. D	Orleans	R. D
Lingle, R. W	Orleans	R. D
Lindley, Laban	Paoli	R. D
Maxedon, Thos. H	Don't know,	N. R. D
May, Geo. W	Orleans	R. D
Montgomery, J. W	Paoli	R. D
Ryan, Sam'l	French Lick,	R. 1 c'rse
Ryan, Wm. E	Removed	R. D
Ritter, John A., Jr	West Baben	R. D
Ritter, John A., Sr	Orangeville,	R. 1 c'rse
Ritter, Thos. B	Orangeville,	R. “
Smith, E. H	NewtonSt'rt,	R. “
Smith, Jas. H		“
Sherrod, Jas. H	Paoli	R. “
Sherrod, Wm. F	West Baden,	R. “
Stroud, E. D	N'ton St'rt	N. R. 10

Regular, 27; not reported, 2.

Owen County.

Coble, Jacob	Spencer	E. D
Cox, Nathaniel	Spencer	R. D
Erskine, A. C.	Hausertown	R. 3
Fisher, B. F.	Quincy	R. D
Gantz, Thomas	Freedom	R. 10
Gilbert, Wm. H.	White Hall	R. 10
Gass, J. M.	Freedom	R. D
Gray, Geo. B	White Hall	R. D
Gray, O. F.	White Hall	R. D
Hamilton, J W.	Coal City	R. D
Hester, W. A. V.	Arney	R. 10
Hickom, Wilford	Freedom	R. D
Hixon, Wm. H	Farmers' Sta	E. 10
Jones, Jesse M	Cataract	R. 10
Keifer, Geo. F	Quincy	R. D
Livingston, J. J.	White Hall	E. D
Maddux, W. B. S.	Vandalia	R 10
McDonald, D. H	Quincy	R. D
McKabe, H. H	Coal City	R. D
McKeely, S. R	Patricksburg	R. D
Medaris, S. D.	Jordan Village	E. 10
Munich, A. J	Freedom	R. 10
Mullinix, E. N	Spencer	E. 10
Noones, Geo. W.	Arney	R. 10
Osgood, H. G	Gosport	E. D
Pierson, Allen	Spencer	R. D
Rice, W. H	Cuba	R. D
Richards, S. D	Patricksburg	R. 10
Ritter, C. L.	Gosport	R. D
Schell, Walker	Spencer	R. D
Smith, John W	Gosport	R. D
Smith, S. E	Gosport	R. D
Stuckey, F. D.	Gosport	R. D
Stuckey, John M.	Gosport	R. D
Symons, T. C	Hausertown	—
Wheeler, Thos	Freedom	R. D
Wiles, Frank M	Spencer	R. D
WILES, WM. V	Spencer	R. D
Williams, John A.	Patricksburg	R. 10
Worden, Jerry	Gosport	R. D
Young, W. S	Coal City	R. D

Regular, 34; Eclectic, 6; not reported, 1.

Parke County.

Name.	*Post Office.*	*County.*	
Alvord, Hiram	Rockville	H.	D
Ball, James T	Judson	R.	D
Black, Robert O	Mansfield	R.	D
Boyd, James M.	Annapolis	R.	D
Baldridge, Robt. A	Roseville	E.	D
Baldridge, Jno. H	Rosedale	E.	D
Caplinger, Chas. A	Marshall	R.	3
Cross, Joseph F	Rockville	R.	D
Campbell, Annie B.	Rockville	E.	D
Crooks, James	Bridgeton	E.	D
Crooks, Jacob H	Bridgeton	R.	10
Crooks, Wm. T	Bridgeton		3
Darroach, Wm. P.	Hollandsburg	R.	D
Daly, Geo. P	Rockville	R.	D
Dare, Jno. S	Bloomingdale	R.	10
Devester, Geo. T	Howard	R	D
Goldsberry, John A	Annapolis	R.	D
Gillum, Wm. H.	Rockville	R.	D
Garrigus, John J.	Sylvania	R.	3
Goss, Marian	Bellmore	R.	D
Hansell, D	Lena	R.	10
Hudson, Benj. F	Montezuma	R.	D
Holmes, Wm. B	Waterman		10
Hamilton, R. S	Portland Mills	R.	10
Harrison, John C.	Montezuma		10
Harvey, Jno. W	Russell's Mills	R.	10
Johnston, Marian H	Bridgeton	R.	D
Larue, Benj	Portland Mills	R.	D
Leonard, Zerilda	Rockville		10
Lynch, Joel Y	Rosedale		D
McKey, R. H. W	Russell's Mills	R.	10
McCune, Geo. W	Montezuma	R.	D
Mendenhall, E. W	Sylvania	E.	10
MORRIS, C. C	Rockville	R.	D
Mater, Jacob D.	Bridgeton	R.	D
Martin, Alonza	Bellmore	R.	D
Morris, Aaron W	Coloma	R.	D
Myers, John G. L	Bloomingdale	R.	D
Powell, Beecher B	Marshall	E.	D
Price, W. S	Catlin	R.	3
Rice, Harrison J	Rockville	R.	D
Rohm, J. Thornton	Bellmore	R.	D
Stallard, J. J	Russell's Mills	R.	10
Thomas, W. D	Rockville	R.	D
Vancleave, Elijah L	Catlin	R.	3
Williamson, A. H	Sylvania	R.	3
Williamson, W. N	Sylvania	R.	D
Welch, John A	Lena	R.	D

Regular, 35; Eclectic, 6; Homeopathic, 1; Not Reported, 6.

Perry County.

Allen, Thos. J	Adyville		10
Bacon, Jesse D	Troy		10
Bennett, James B	Derby	R.	3
Bradshaw, Sam'l H	Bristow	R.	D
Brucker, Chas. W	Tell City	E.	D
Cannavan, John W	Doolittle's Mills	R.	3
Cassidy, Joseph	Ranger		3
Cluthe, Wm	Tell City	R.	D
Cox, C. E	Cannelton	R.	10
Critchfield, John S	Foster's Ridge	E.	D
Curry, Hiram M	Cannelton	R.	D
Dome, David C	Troy	R.	10
Evans, F. A	Troy		10
Gabus, Peter C	Mt. Pleasant	R.	3
Hendrixson, A. M. *D*	Rono	R.	D
Hix, Wm. B.	Don Juan		10
Ladd, Chas. W	Cannelton	R.	D
Lang, John W	Cannelton		10
Lee, John H	Rono	R.	D
Lomax, Wm	Bristow	R.	D
Meeks, Lewis	Branchville		10
MITCHELL, F. M	Cannelton	R.	D
Myers, Josephus	Rono	R.	D
Shellbrase, Gred. W	Tell City	H.	D
Ungrecht, C	Tell City		10
Vanwinkle, Sylvester	German Ridge		10
Webb, James R.	Troy	E.	10
Wedding, M. F	Rome	R.	D

Regular, 15; Eclectic, 3; Homeopathic, 1; Not Reported, 9.

Pike County.

Adams, J. R	Petersburg	R.	D
Basinger, T. W.	Oatsville	R.	D
Beardsley, J. M.	Winslow	R.	D
Byers, A. R.	Petersburg	R.	D
CORN, NATHANIEL	Augusta	R.	D
Case, Abe L.	Velpen	R.	D
Coleman, J. W	Union	R.	D
Carlton, S. B	Petersburg	E.	3
DeTarr, David	Winslow	R.	3
Duncan, J. B.	Petersburg	R.	D
Furguson, J. W.	Pikeville	R.	10
Furguson, Thomas	Spurgeon	H.	3
Fullenweider C. H.	Petersburg	R.	D
Godwin, J. W.	Otwell	H.	10
Hornbrook, J. T	Union	R.	D
Harrington, A. J	Velpen	R.	10
Hawkins, John	Petersburg	R.	D
Hewring, G. G	Winslow	R.	3
Hillsmeyer, L. H	Stendal	R.	D
Harris, R. W	Algiers	R.	D
Ireland, G. L.	Winslow	R.	D
Johnson, L. B.	Otwell	R.	D
Kime, R. R	Petersburg	R.	D
Kepley, Wm	Petersburg	E.	10
Lance, J. T	Spurgeon	E.	3
Lamar, J. H.	Petersburg	E.	D
Link, W. H	Otwell	R.	D
Osborn, W. R.	Spurgeon	R.	D
Pagin, Henry	Velpen	E.	D
Rhoads, A. J	Pikesville	R.	10
Taylor, J. N. T.	Velpen	R.	D
Thomas, M. C.	Petersburg	E.	10
Smith, J. T	Glezea	R.	10
Woodward, L. E	Winslow	R.	D
Ward, J. B	Union	R.	D

Regular, 27; Eclectic, 6; Homeopathic, 2.

Porter County.

Name.	*Post Office.*	*School.*
Arnold, Geo. W	Valparaiso	R. D
Atkins, Lyman.	Kouts.	R. D
Blackston, John K	Hebron	R. D
Blackston, J. K., Jr	Hebron	R. D
Blackston, Wm. B	Hebron	R. D
Beer, Henry M	Valparaiso	R. D
Cathron, Wm. O	Valparaiso	H. D
Coates, Hays C	Valparaiso	R. D
Carson, Joseph C	Hebron	R. D
Edwards, Enos A	Hebron	H. D
Green, Hiram	Chesterton	R. 10
Hubbard, R. B	Hebron	E. D
Jones, E. J	Hageman	R. 10
LORING, DAVID J	Valparaiso	R. D
Litherman, A. P	Valparaiso	R. D
Miller, Robert E	Chesterton	R. D
Marr, Dolos D	Chesterton	R. D
McCarthy. John F	Valparaiso	R. D
McClure, Geo. H	Boon Grove	R. D
McKee, Chas. W	Kouts.	R. D
Newland, James H	Valparaiso	R. D
Oakes, Omar	Wheeler	R. D
Pratt, Samuel	Hebron	R. D
Pagin, Samuel	Valparaiso	E. D
Ryan, John A	Valparaiso	E. D
Sayles, Marshall F	Valparaiso	H. 10
Lous, L. Edward	Chicago.	R. D
Vincent, Alonzo W.	Valparaiso	E. D
Wood, Oliver S	Hebron	E, D
Yohn, Wm. A.	Valparaiso	R. D

Regular, 22: Homeopathic, 3; Eclectic, 5.

Posey County.

Allen, Leroy R.	Cynthiana	E. 3
Brydon, John F	Griffin	R. 3
Bucklin, George W.	New Harmony	R. D
Baldwin, W. H.	Oliver	R. D
Bitz, L. B.	Blairsville	R. D
Brown, J. Edgar	Mt. Vernon	R. D
Carey, W. P.	Mt. Vernon	R. 3
Crosby, Lucien B	Cynthiana	R. 3
Cremeens, W. C.	Grafton	E. D
Dailey, T. J.	Poseyville	R. 10
Deutsdorff. H. B	**Parker's Set'mt.**	**R. 10**
Digon, R. S.	**West Franklin**	**H. 10**
Elliott, Cyrenius, Sr	**Poseyville**	**R. 10**
Elliott, Cyrenius, Jr	**Poseyville**	**R. 3**
Flucks, Carl	**St. Wendel**	**R. 10**
Gudgel, James E.	**Cynthiana**	**R. D**
Goodwin, E. J	**Solitude**	**R. D**
Glaze, L. Alonzo	**Stewartsville**	**R. D**
Gettings, C. C.	**Grafton**	**R. 3**
Holton, W. M.	**New Harmony**	**R. D**
Hicks, C	**Caborns**	**R. D**
Huston, J. C	**Mt. Vernon**	**R. D**
Harper, John	Mt. Vernon	R. D
Hensler, Ernst	West Franklin	R. 3
Henderson, S. C	St. Philip	R. D
Krangrill, David	Wadesville	R. D
Millard, Z. R	Griffin	R. D
Neal, Daniel	New Harmony	R. 10
Pearse, S. H	Mt. Vernon	R. D
Peckinpaugh, G. R	Mt. Vernon	R. D
Powell, I. W	Mt. Vernon	R. 3
RAMSEY, D. C.	Mt. Vernon	R. D
Rawlings, S. O	**New Harmony**	**R D**
Rutledge, J. C	**Poseyville**	**R. 10**
Rutler, John	**Cynthiana**	**E. D**
Schultz, O. T	**Mt. Vernon**	**R. D**
Spencer, E. V.	**Mt. Vernon**	**R. D**
Smyth, R.	**Mt. Vernon**	**R. D**
Smyth, J	**Blairsville**	**R. D**
Smith, Wm. F	**Cynthiana**	**E. D**
Williams, Jos. B	**Grafton**	**R. 3**
Welborn, Geo. W.	**Stewartsville**	**R. D**
Welch, Walter	**Farmersville**	**R. D**
Young, Thos. B	**Poseyville**	**R. D**

Regular, 39; Eclectic, 4; Homeopathic, 1.

Pulaski County.

Brown, Stephen I	**Francesville**	**R. D**
Buck, Felix G	**Oak.**	**R. 3**
Hovions, R. D	**Francesville**	**R. D**
Jones, H. R.	**Medaryville**	**R. D**
Kittinger, H. R.	**Winamac.**	**R. D**
Kelsey, William	**Monterey.**	**R. D**
McPherson, Chas. F	**Pulaski.**	**R. D**
Moss, R. F	**Winamac.**	**R. D**
Osborn, Jas.	**Star City**	**R. 10**
Pattison, H. E	**Winamac.**	**R. D**
Pugh, John W	**Winamac**	**P.-M. D**
Rannells, W. S	**Monterey.**	**R. D**
Sharrer, John C	**Francesville**	**R. D**
Stephens, H. C	**Monterey**	**R. D**
Thompson, G. Y	**Winamac.**	**R. D**
Thompson, W. H	**Winamac.**	**R. D**
Thomas, F. B	**Winamac.**	**R. 10**
THOMAS, J. J	**Winamac.**	**R. 10**
Wright, W. G.	**Winamac.**	**R. 10**

Regular, 18; Physio-Medical, 1.

Putnam County.

Name.	*Post Office.*	*School.*	
Allen, C. A	New Maysville	R.	3
Batman, W. F	Roachdale	R.	D
BENCE, G. W	Greencastle	R.	D
Bastin, J. V	Belle Union	R.	D
Cully, J. F	Bainbridge	R.	D
Cross, J. B	Bainbridge	R.	D
Colliver, R. T.	Russelville	E.	D
DeVore, H. V	Greencastle.	R.	D
Denny, R. B	Fillmore	R.	10
Dooley, R. L	Russelville	R.	3
Evans, E. B	Greencastle.	R.	D
Farver, G. W.	Bainbridge	R.	D
Faris, E. G	Clinton Falls	R.	D
Fulton, R. E	Bainbridge	R.	10
Grimes, J. B	Mt. Meridian	R.	10
Glazebrook, L. D.	Putnamville	R.	10
Hanna, L. M	Greencastle.	R.	D
Hopwood, W. C	Greencastle.	R.	D
Harris, W. C	Carpentersville.	R.	D
Hill, W. D	Greencastle.	H.	10
Horn, A. H	Putnamville	R.	D
Hawkins, Eugene	Belle Union	R.	D
Hamilton, R. S.	Portland Mills	R.	10
Harvey, J. W.	Russelville	R.	10
Knight, John M	Greencastle.	E.	D
Leatherman, J. R	Manhattan	R.	D
Larue, Benjamin.	Portland Mills	R.	D
Mullinix, P.	Cloverdale	R.	3
Morrow, L. B.	Greencastle	R.	D
Moore, A. H	Morton	R.	D
Mahorney, J. W	Belle Union	R.	D
McCarty, W. T.	Roachdale	R.	D
McCandless, A. S.	Roachdale	R.	D
Newgent, R. P	Morton	R.	10
Prichard, W. K.	Cloverdale	R.	D
Prichard, Louis	Cloverdale	E.	D
Pitchlynn, H. R	Greencastle.	R.	10
Preston, J. L	Cloverdale	R.	D
Preston, A. L.	Fillmore	R.	D
Preston, A. G	Greencastle.	R.	D
Purcell, W. M	Reelsville.	R.	D
Robinson, J. H.	Fillmore	R.	D
Rogers, Dudley.	Greencastle.	R.	D
Smythe, G. C.	Greencastle.	R.	D
Stockwell, G. W	Greencastle.	R.	D
Stanley, Logan.	Fincastle	R.	D
Stallafd, J. J.	Russelville	R.	10
Slavens, John	Brick Chapel	R.	D
Spurgeon, Frank.	Mt. Meridian	R.	D
Smythe, A. E.	Fillmore	R.	D
Taylor, Mary J.	Greencastle.	H.	D
Taylor, G. W.	Greencastle.	H.	10
Walker, W. O	Bainbridge	R.	D
Wood, N. S	Groveland	R.	D
Zaring, C. T	Reelsville.	R.	D

Regular, 49; Eclectic, 3; Homeopathic, 3.

Randolph County.

Alexander, Mrs. P. B	Winchester	P.-M.	10
Alexander, R. P	Winchester	P.-M.	10
Bailey, Elisha T	Ridgeville	R.	D
Ballard, Amos B	Deerfield	R.	D
Berry, John S	Spartansburg	R.	D
Blair, James S	Lynn	R.	D
Bosworth, Richard	Winchester.	R.	D
Botkin, John W	Unionport	E.	10
Botkin, Thomas W	Unionport	E.	3
Carter, David M	Modoc	R.	D
Cox, Cyrus	Lynn	R.	D
Carver, James M	Winchester.	R.	10
CHENOWETH, J. T	Winchester.	R.	D
Chenoweth, Forest A.	Winchester.	R.	D
Chenoweth, Nelson T.	Windsor	R.	D
Commons, Wm.	Union City	R.	D
Coggshall, Wm. R	Carlos City	E.	10
Davis, Lewis N.	Farmland	R.	D
Evans, C. S	Union City	R.	D
Evans, George S	Saratoga	R.	10
Evans, Joseph J	Winchester	R.	10
Farquhar, Allen H	Ridgeville	R.	D
Fager, C. M.	Fairview	R.	10
Franks, H. P	Losantville.	R.	D
Frederick, Geo. W	Ridgeville	R.	D
Frazier, John W	Union City.	P.-M.	10
Gustin, Francis M	Union City	H.	D
Huddleston, A. F	Winchester.	H.	D
Harrison, Harlan.	Union City	R.	D
Hammon, E. W.	Spartansburg.	E.	3
Heiner, John	Arba	R.	D
Hetzler, William W	Arba	R.	D
Hunt, Henry C	Trenton	R.	3
Hunt, Pleasant.	Farmland	E.	10
Hiatt, John A	Ridgeville	E.	D
Hiatt, C. C	Ridgeville	E.	D
Hamilton, R	Lynn	R.	10
Johnson, Harvey B.	Ridgeville	R.	D
King, James V	Castle	R.	10
Keener, James M.	Farmland	R.	10
Kendall, James P	Losantville.	R.	10
Knapp, Albert R	Ridgeville	P.-M.	D
Lawrence, M. H	Union City	R.	D
Markle, John E	Winchester.	R.	D
Mote, Elijah V	Union City	E.	D
Marquis, William K	Bartonia	E.	10
Martin, J. Charles	Union City	R.	D
Moroney, James H	Carlos City	R.	D
McFarland, Norman	New Pittsburg	E.	10
Nixon, John	Farmland	R.	D
Owens, John K	Harrisville	R.	3
Purcell, John.	Deerfield	R.	D
Proctor, J. A	Union City	P.-M.	10
Rogers, Aaron G	Parker	R.	D
Reynard, Granville	Union City	R.	D
Ruby, Samuel B	Union City	R.	3
Reeves, John L.	Union City	E.	D
Rickard, Wm. A	New Pittsburg	E.	D
Rickard, Claudia A	New Pittsburg	E.	D
Remmel, Sylvania	Winchester	P.-M.	10
Smith, William G	Winchester.	R.	D
Smith, Calvin	Farmland	E.	D
Shoemaker, Wm. J	Ridgeville	R.	10
Thompson, Geo. W.	Union City	E.	D
Thompson, Val.	Union City	E.	10
Trent, Isaac N	Losantville.	R.	D
Tiser, William R	Rural.	R.	10
Welbourne, E. L	Union City	E.	D
White, James K	Union City	R.	D
White, L. E.	Spartansburg	P.-M.	D
Yergin, H. H	Union City	R.	D

Regular, 44; Eclectic, 17; Homeopathic, 2: Physio-Medical, 7.

Ripley County.

Name.	Post Office.	School.	
Abbott, June	Milan	E.	D
Abbott, Mano	Milan	E.	D
ANDERSON, JAS.	Versailles	R.	D
Barclay, Wm. H	Elrod	R.	D
Brown, Chas. M	New Marion	R.	D
Cass, C. H	Holton	R.	D
Clark, Freeman	Rei	R.	D
Davis, James R.	Morris	R.	D
Freeland, John P	Sunman	R.	D
Freeman, Ed. D	Osgood	R.	D
Hess, John N	New Marion	R.	D
Hicks, John C	Napoleon	P.-M.	D
Jermon, L. W	Balls Town	R.	D
Jones, John G	Versailles	R.	D
Joseph, Alex. F	Osgood	R.	D
Lamb, James F	Rei	E.	D
Miller, A. G	Elrod	E.	D
Miller, R. H	Cross Plains	R.	D
Newforth, Christian	Sunman	R.	D
Parsons, Geo. E	Rei	E.	D
Rayburn, J. W	Batesville	R.	D
Redlon, Daniel M	Pierceville	R.	3
Rogers, E. D	South Milan	R.	D
Roberts, Jeremiah	Holton	R.	3
Robinson, John M	Versailles	R.	D
Schloesser, Geo. F	Batesville	N. R.	10
Sneezey, John M	Cross Plains	E.	10
Townsend, S. B	Poston	R.	D
Vincent, E. B	Sunman	R.	D
Young, Robert W	Milan	R.	10
Ziteke, Joseph	Batesville	R.	D

Regular, 22; Eclectic, 6; Physio-Medical, 1; Not Reported, 1.

Rush County.

Arnold, John	Rushville	R.	D
Axlim, J. A.	Raleigh	R.	D
Beher, E. D.	Rushville	R.	D
Bonner, Mary L.	Carthage	R.	D
Bogart, H. J	Carthage	R.	10
Dillon, J. C.	Knightstown	R.	D
Drake, F. J	Carthage	R.	D
Elliot, E. H.	Glenwood	R.	D
Gilbert, C. H	Rushville	H.	D
Gordan, W. B.	Manilla	R.	D
Green, J. M.	Arlington	R.	D
Green, Lot	Rushville	R.	D
Graham, A. E.	Richland	R.	10
Glass, T. F	Arlington	R.	3
Hackleman, F. G.	Rushville	R.	D
Hargrove, W. S.	New Salem	R.	D
Inlow, J. J	Manilla	R.	10
King, F B	Homer	R.	D
Linn, H. G	Rushville	H.	D
Moffett, John	Rushville	R.	D
McGaughey, John E	Arlington	R.	D
McMahan, S. W.	Rushville	R.	D
Megee, W. N	Occident	R.	D
Megee, Omar	Rushville	R.	D
Newlin, S. C.	New Salem	R.	D
Newby, Oliver	Carthage	R.	D
Orr, James P	Glenwood	R.	D
Parsons, C. H.	Rushville	R.	D
Pugh, W. A.	Rushville	R.	D
Ross, Leonard G	Raleigh	R.	10
Rucker, T. H	Arlington	R.	10
Rodgers, W. R	Milroy	R.	3
Riley, S. H	Milroy	R.	D
Sexton, Marshall	Rushville	R.	D
Sexton, J. C.	Rushville	R.	D
SMITH, W. H.	Rushville	R.	D
Spurrier, J. H.	Rushville	R.	D
Sparks, J. B.	Carthage	R.	D
Tevis, J. L	Moscow	R.	10
Thomas, S. C	Milroy	R.	D
Wright, George	Sexton	P. M.	D
Welliver, James E	Rushville	H.	D

Regular, 38: Homeopathic, 3; Physio-Medical, 1.

Scott County.

Blotcher, J. B	Holmans Stat'n	R.	D
Casey, H. R.	Austin	R.	D
Davis, Wm. H	Lexington	R.	10
Green, W. E	Lexington	E.	D
Hougland, M. E. M	Vienna	R.	10
Lathrop, A. H	Lexington	R.	D
Maser, J. S.	Vienna	R.	10
Paswater, J. G	Lexington	R.	D
Sarver, J. A.	New Frankfort	R.	D
Warmoth, G. M	Scottsburg	R.	D
WATSON, J. M	Scottsburg	R.	D

Regular, 10; Eclectic, 1.

Shelby County.

Name.	*Post Office.*	*School.*
Adams, James M	Noah	R. 10
Bowlby, Joseph	Noah	R. D
Baylor, W. R.	Sulphur Hill	E. D
Bentley, W. R	Morristown.	H. D
Cuppen, E. H.	Blue Ridge	R. 10
Comstock, James A.	Marietta	R. D
Comstock, Hiram.	Marietta	R. D
Conley, Henry	Flat Rock	R. D
Coleman, Emma E.	Shelbyville.	E. D
Carter, James	Morristown	N. R. 3
Drake, Morris	Shelbyville.	R. D
Drake, I. H	Shelbyville.	R. D
Gilmore, Moses R	Boggstown	R. D
Green, J. W.	Shelbyville.	R. D
Fleming, G. W	Shelbyville.	R. D
Ford, W. M.	Mt. Auburn	R. D
Floyd, R. M.	Shelbyville.	R. 10
Inlow, I. W.	Blue Ridge	R. 10
Kennedy, F. C	Shelbyville.	R. D
Keeling, Wm. W	Sulphur Hill	E. D
Kennedy, S. A	Winterrowd	R. D
Kennedy, S. A	Shelbyville.	R. D
Jenkins, J. R.	Waldron	R. D
Jones, T. S	Shelbyville.	R. D
Lowden, John	Carrolton.	E. D
Lucas, J. N.	Shelbyville.	H. D
Leech, E. W	Shelbyville	E. D
MADDOX, J. F	Shelbyville.	E. D
McFadden, W. G.	Shelbyville.	R. D
McCrea, R. S	Morristown.	R. D
Pierson, W. M	Fountaintown	R. D
Perry, John.	Shelbyville.	R. D
Parish, J. W	Shelbyville.	E. D
Petigrew, D. A	Flat Rock	R. D
Posz, Marget	Shelbyville	N. R. 10
Rubush, T. R.	London.	R. D
Raynes, R. D.	Lewis Creek	R. 10
Strickler, S. L	Boggstown	E. D
Snyder, J. W	Fairland	R. D
Salsberry, S. S	Morristown.	E. 10
Stewart, J. R	Fairland	R. D
Stewart, J. B	Marietta	R. 10
Sanford, J. H.	Shelbyville.	R. 3
Stackhouse, U. S	Morristown.	R. D
Shrout, W. T	Ray's Crossing	E. 10
Trees, I. W	Smithland	R. D
Taylor, J. F	Sulphur Hill	R. D
Tindall, C. A	Shelbyville.	E. D
Washburn, R. R	Waldron	R. D
Wolf, J. C.	Morristown.	R. D
Winters, G. G	Shelbyville.	H. 10
Whetzel, F. F	Morristown.	R. D
Wells, E. F	Shelbyville.	R. D

Regular, 37; Eclectic, 11; Homeopathic, 3; Not Reported, 2.

Spencer County.

Ambrose, H. L	Rockport.	R. D
Adye, G. F	Newtonville	E. D
Anderson, E. M	Huff	R. D
Austin, T. R	Chrisney	E. D
Bean, A. M.	Gentryville.	E. D
Bryant, J. B	Gentryville.	R. 3
Bryant, W. S	Dale	R. D
Billart, F. W	Chrisney	R. 10
Bryant, J. H	Gentryville.	R. 10
Butler, J. M	Huff	E. D
Camp, Wm. F	Buffaloville.	E. 3
Dailey, J. M	Rockport.	R. D
Dyer, A. S	Huffman	E. 3
Ehrman, E. D	Rockport.	H. 3
Gatewood, T. H	Midway	R. D
Geugelbach, E. E.	St. Meinrad	E. D
HACKLEMAN, F. M.	Rockport.	E. D
Harrison, E. P	Patronville.	E. 10
Hartley, H. H	Eureka	R. D
Hammond, D. M	Grandview	R. D
Hunter, S. W.	Chrisney	R. 3
Hutchinson, R. H	Gentryville.	R. D
Jones, W. M	Gentryville.	R. D
Jolly, J. C	Lake	R. D
Johnson, T. J.	Dale	R. D
Johnson, E. L	Lake	R. D
James, J. B.	Buffaloville	E. 10
John, B. B	Newtonville	E. 10
Killiam, J. L	Eureka	R. 10
Lucas, L. B.	Buffaloville	E. D
Lang, J. W	Rockport.	R. 10
Littlepage, S. B	Rockport.	R. D
Lee, H. A	Newtonville	R. D
Lang, Jacob	Lake	H. D
Milner, I. L	Rockport.	R. D
Medcalf, A. F.	Dale	R. 10
Myler, J. M.	Eureka	R. D
Malowskey, F	Mariah Hill	R. D
Mann, W. A	Rockport.	R. D
McCoy, L. H	Lake	R. D
McCoy, G. W	Chrisney	R. D
McKasson, J. W	Gentryville.	E. 10
Pritchett, W	Dale	R. D
Reinheart, E. W	Dale	R. D
Schweitzen, J. J	Santa Claus	R. 3
Smith, J. R	Chrisney	E. D
Turpin, James	Rockport.	E. D
White, Arthur	Rockport.	R. D
Worseley, George	Grandview	R. D
Wright, Thomas	Midway	R. D
Williams, W. H	Dale	E. D
White, J. T.	Grandview	R. 3

Reglar, 34; Eclectic, 16; Homeopathic, 2.

Starke County.

Abner, John R.	Grovertown	P.-M. D
Agnew, Thos. J	San Pierre	R D
Bonar, M. C	Knox	R. 3
BONAR, S. S.	Knox	R. 10
Conner, L. E	Knox	E. 10
Dumfree, Joseph	Knox	P.-M. D
Garner, Henry	Knox	R. 10
Henderson, Alex. H	Knox	E. 10
Hunt, Zachariah	Ora	R. 10
Noland, James F.	North Judson	R. D
Richmond, Chas. M	Grovertown	R. D
Wright, Mark R	Knox	E. 10

Regular, 7; Eclectic, 3; Physio-Medical, 2.

Steuben County.

Name.	*Post Office.*	*School.*	*Name.*	*Post Office.*	*School.*
Abbott, Lyman.	Fremont	R. D	McNabb, Theodore.	Fremont	R. D
Bowen, M. M	Flint	R. D	Ransburg, M. V	Salem Center.	R. D
Brown, D. N. E.	Hamilton.	R. 10	Shaw, M. F.	Angola	R. D
Cameron, James J	Hamilton.	R. D	Sanburn, P. P	Fremont	H. D
Clay, M. F	Salem Center.	E. D	Schofield, S	Hamilton.	R. 10
Candee, E. A	Flint	E. D	Stauter, E. R	Fremont	R. D
Fuller, S. H	Pleasant Lake	R. D	Taylor, E. A	York Center	R. D
Firestone, J. L	Salem Center.	R. D	WOOD, H. D	Angola	R. D
Goodale, C. W	Metz	R. D	Weicht, W. C	Angola	H. 10
Hamilton, F. C	Hudson.	R. 3	Waller, W. H	Angola	R. D
Keesler, George	Orland	R. 10	Williams, I. B	Angola	R. D
Kimsey, J C	Salem Center	R. 10	Wilkinson, J. J	Orland	R. 10
Kimmel, Alva	Hudson.	R. D	Wood, T. F	Metz	R. D
Keyes, C. R	Fremont	R. D	Wood, Sol. A	Angola	R. D
Leos, E. R	Angola	H. 3	Wallace, James J	Orland	R. D
Moore, J. H	Angola	E. 10			

Regular, 25; Eclectic, 3; Homeopathic, 3.

St. Joseph County.

Borough, John	Mishawaka	H. D	Moore, Charles W.	Walkerton	R. 10
Brown, Jacob R.	South Bend	R. 10	Miller, Martin	South Bend	H. D
Butterworth, Wm. W.	Mishawaka	R. D	McDonald, Thos. T.	New Carlisle	R. 10
Campbell, Alex. S	North Liberty	E. 10	Massey, T. F	New Carlisle	E. D
Cassidy, John	South Bend	R. D	Miller, Allen G.	South Bend	R. 3
Carpender, Geo. W.	South Bend	E. [illegible]	Merritt, Alanson B.	South Bend	R. D
Church, Isaac W	Walkerton	R. D	McGill, John A.	South Bend	H. D
Dunning, Lehman H.	South Bend	R. D	McAllister, E. W	South Bend	R. D
Daugherty, C. A	South Bend	R. D	McCool, Amos W.	Walkerton N.	R. 10
Drollinger, E. M	South Bend	E. D	McGill, James P	South Bend	H. D
Deitrich, Wm. A	South Bend	R. D	Norton, Daniel H.	South Bend	R. 10
Dayton, Daniel	South Bend	R. D	O'Connor, Joseph	North Liberty	R. 10
Endley, James F.	Walkerton	E. D	Osborne, Geo. A	South Bend	R. D
Eliel, Leopold	South Bend	R. 10	Osborne, Margaret	South Bend	H. 10
Fast, Emmet E	Lakeville	R. D	Pierce, William A	Osceola	R. 3
Fink, Henry A	Woodland	R. 3	Partridge, J. M.	South Bend	H. D
Freemyer, Geo. L.	Granger	R. D	Rupp, P. E	South Bend	E. 10
Green, James B.	Mishawaka	R. 10	Richmond, Chas. M.	Walkerton	R. D
Grimes, James F.	Mishawaka	E. 10	SAWYER, F. M	South Bend	R. D
Grimes, John H	Mishawaka	E. D	Sack, John C	South Bend	R. D
Huntsinger, A	Mishawaka	E. D	Stockwell, Sarah F.	South Bend	R. D
Harris, Robert	South Bend	E. 10	Shafer, Geo. J.	North Liberty N.	R. 10
Harris, Joel	New Carlisle	R. 10	Schafer, Albert F.	South Bend	R. D
Hanford, Wm. H	South Bend	H. 10	Thorp, Baron C.	Mishawaka	R. D
Hill, J. Willis	South Bend	R. D	Ulery, Stephen H.	South Bend N.	R. 10
Kilmer, S. L	South Bend	R. D	Varier, James A.	North Liberty	R. D
Loring, Samuel C.	Walkerton	R. D	Van Pelt, Ryan T.	Mishawaka	R. D
Myers, Cornelius	South Bend	H. D	Van Riper, Abram N.	New Carlisle	E. D
Montgomery, H. T	South Bend	R. D	Wickham, W. A. R.	South Bend	E. D
Moore, John	Lakeville	R. 10	Woodworth, Henry A.	Walkerton	R. 3
Moore, Robert	Lakeville	R. 10	Wagner, Albert L.	South Bend	R. D
Mauser, John	South Bend	R. 10			

Regular, 37; Eclectic, 12; Homeopathic, 8; not reported, 3.

Sullivan County.

Bedwell, Theoph. S.	Dugger	R. D	Mason, T. A	New Lebanon	R. D
Bennett, J. H.	Farmersburgh	E. D	Mathews, J. M	Carlisle.	R. D
Briggs, C. F	Sullivan	R. D	Mayfield, T B	Pleasantville	R. D
Brown, N. S	Dugger	R. 10	McDowell, J	Pleasantville	R. 10
Buskirk, J. S	Shelburn	R. 10	Murphy, A. M	Sullivan	R. 3
Crowder, R. H.	Sullivan	R. D	Murphy, A. D	Sullivan	R. D
Crowley, J. B	Sullivan	E. D	Mnrphy, J. S	Sullivan	R. 3
Cushman A.	Graysville	R. D	Nebergall, J. W	Burchard	R. 10
Daily, T. L	Paxton	R. 3	Osborn, S. D	Shelburn	R. D
Delashmut, V. E	Shelburn	R. D	Phillips, J. L	Sullivan	R. 3
Denison, E. D	Carlisle	R. 10	Plew, G. F.	Pittsburgh	R. D
Durham, J. L	Graysville	R. [illegible]	Robbins, William	Dugger	E. D
FREEMAN, JOS.	Sullivan	R. D	Sanders, J. F.	Sullivan	R. 3
Fleming, W. A	Pleasantville	R. 3	Sharpless, Henry	Fairbanks	R. D
Harper, H. F	Merom	R. D	Stone, W. O.	Fairbanks	R. D
Harper, J. B	Shelburn	R. 10	Thompson, J. J.	Sullivan	R. 3
Higbee, G. W	Sullivan	R. D	Thompson W. N	Sullivan	R. D
Higbee J. L.	Sullivan	H. D	Thralls, R. T	Pittsburg	R. D
Jenkins, R. L.	Carlisle.	R. 3	Vancleve, R. H	Farmersburgh	R. D
Lisman, J. W.	Buell City	R. D	Walters, J. A	Paxton	R. D
Lisman, W. A	Carlisle	R. D	Weir, S. D	Sullivan	R. D
Lisman, S. J	New Leabnon	R. D	Whalen, R. M	Carlisle.	R. 10
Lowder, C. M	Dugger	R. D	Young, J. M	Carlisle	R. D

Regular, 42; Eclectic, 3; Hemeopathic, 1.

Switzerland County.

Name.	Post Office.	School.	
Cheever, E. M	Quercus Grove	R.	10
Clark, R. E	Mt. Sterling	R.	D
CRAIG, ALBERT G	Vevay	R.	D
Culbertson, Scott.	Moorefied	R.	D
Dalgleish, H. T.	Vevay	R.	D
Elfers, John	Sugar Branch	R.	D
Griffith, A. J	Mt. Sterling	R.	D
Holland, P. C.	Vevay	R.	D
Jameson, R. A	Patriot	R.	D
Langsdale, J. M. W	Florence	R.	D
McMillen, Wm	Sugar Branch	R.	10
Olcott, W. A	Patriot	R.	D
Rons, H. C	Vevay	R.	D
Sage, P. S.	Vevay	R.	10
Shadday, J. H	Vevay	R.	D
Simpson, R. G	Bennington	R.	D
Smith, J. W	Vevay	H.	D
Vanosdol, C. L	Allensville	R.	D
Vanosdol, J. W.	Allensville	R.	D
VanPelt, G. W	Vevay	R.	D

Regular, 19; Homeopathic, 1.

Tippecanoe County.

Name.	Post Office.	School.	
Ackerman, August.	Lafayette	H.	D
Abott, Abner	Lafayette	E.	D
Ayer, J. W	Lafayette	E.	D
Beasley, George F	Lafayette	R.	D
Berryman, James	Lafayette	NR	10
Baugh, S. L.	Farmers' Inst	R.	D
Bates, Samuel L	Lafayette	R.	D
Barcus, Paul	Odell	R.	D
Baker, A. B		E.	D
Bonham, David		E.	D
Brown, W. W.	Buck Creek	R.	10
Brown, L. L	Stockwell	R.	3
Campbell, W. S.	West Point	R.	D
Charles, Robert E	West Point	R.	10
Charter, John H	Lafayette	R.	D
Coblentz, J. W	Lafayette	NR	10
Comstock, H. W	Lafayette	R.	10
Coon, H. J	Lafayette	R.	10
Crain, Chas. H	Lafayette	R.	D
Crider, Geo. W.	Buck Creek	R.	D
Crouse, J. H	Dayton	R.	D
Dienhardt, Michael	Lafayette	R.	10
Dunbar, James	Battle Ground	R.	10
Ellis, James D	Battle Ground	R.	D
Ellsworth, James	Glen Hall	R.	D
Ensminger, John	Lafayette	N R	8
Field, Henry J	Lafayette	R.	10
Fifield, Alice P.	Lafayette	H	10
Fisher, John	Lafayette	R.	D
Fickle, James	Stockwell	E.	D
Fox, S. R.	Lafayette	D.	10
Fox, R. W	Lafayette	R.	D
Goldsberry, S. S	Montmorency	R.	D
Jackson, C. P.	Lafayette	NR	D
Hecker, L. F	Lafayette	E.	D
Huepe, Karl	Lafayette	R.	D
Hunt, Cyrus	Odell	R.	D
Hill, Wm. K	Dayton	R.	D
Irwin, L. M.	Lafayette	R.	D
Ingersoll, B. F	Lafayette	R.	D
Ingersoll, J. M.	Lafayette	R.	D
Keiper, C. B	Lafayette	R.	D
Kirkpatrick, Geo. W	Lafayette	R.	10
Koonse, J. B	Lafayette	R.	10
Laboree, Wm.	Clark's Hill	R.	10
Littell, John V.		NR	D
Moffitt, Wm. R.	Lafayette	R.	D
Moffitt, R. R	Lafayette	R.	D
Mote, John O.	Lafayette	R.	D
Orth, Wm. M	Lafayette	R.	D
Ogborn, Job	Buck Creek	R.	10
Osborn, Geo. A.	Lafayette	R.	D
O'Ferrall, R. M	Lafayette	R.	D
O'Ferrall, F. F	Lafayette	R.	D
Potel, Christian	Lafayette	R.	D
Powers, E. D	Lafayette	R.	D
Rainey, H. W.	Lafayette	R.	D
Riddill, H. D.	Battle Ground	R.	10
Rose, F. W	Lafayette	R.	10
Robinson, Robt. D	Lafayette	R.	D
Snyder, Leander	Lafayette	R.	10
Seawright, Samuel R.	Lafayette	R.	D
Swisher, Francis M	Stockwell	N. R.	D
Spaulding, Joseph	Lafayette	R.	D
Stallard, J. S.	Monitor	R.	3
Shill, C. W	Lafayette	R.	D
Simison, John F	Roumey	R.	D
Simison, John	Roumey	R.	3
Simpkins, R. C	West Point	R.	3
Soper, August	Lafayette	R.	D
Vinnedge, W. W	Lafayette	R.	D
Walker, W. S.	Lafayette	R.	D
WETHERILL, R. B	Lafayette	R.	D
Washburn, Geo. W	Lafayette	E.	10
Washburn, Sam S	Lafayette	R.	D
Washburn, Oliver	Odell	R.	D
Yount, Silas T	Lafayette	R.	D
Yager, W. J.	Glen Hall	R.	D
Yearkle, D. T.	Lafayette	R.	D

Regular, 64; Eclectic, 7; Homeopathic, 2; not reported, 6.

Tipton County.

Name.	Post Office.	School.	
Armfield, Tilmond O.	Tipton	R.	D
Austin, Winser.	Windfall	R.	10
Collins, Geo. M.	Tipton	R.	D
Cooper, John	Groomsville	P.-M.	D
Cook, F. S. W	Kempton	P.-M.	D
Doan, Nathan W.	New Lancaster	R.	10
DICKEY, A. S	Tipton	R.	D
Downing, Samuel G	Hobbs	R.	D
Glass, Wm. M	Atlanta	R.	D
Grove, Jasper M	Tipton	R.	10
Gossett, Lucy.	Kempton	E.	D
Heath, Wm. N	Sharpsville	R.	3
Hilldrup, J. R	Windfall	P.-M.	D
Jessup, John T	Curtisville	R.	D
Lindsay, James P	Sharpsville	R.	10
Miller, Lewis C.	Atlanta	R.	D
McAllister, Lewis	Windfall	P.-M.	D
McReary, O. P	Nevada	R.	3
Newcomer, M. V. B	Tipton	R.	D
Pitzer, A. B.	Tipton	R.	D
Repp, Geo. R	Goldsmith	R.	3
Rubush, D. P	Sharpsville	R.	3
Ross, L. H	Ekin	N. R.	10
Read, Horace G	Tipton	R.	D
Stephenson, Jas. A	Kempton	R.	3
Spitzmesser, John L	Windfall	E.	10
Somers, Joseph A	Groomsville	R.	10
Scott, Edwin	Kempton	R.	D
Van Nuys, Wm.	Tipton	R.	D
Vickrey, M. V. B	Tipton	R.	D
Wood, Geo. C. W	Windfall	R.	D
Whelchell, Thos. C	Goldsmith	R.	10
Zeek, Tarlon S	Windfall	R.	10

Regular, 26; Eclectic, 2; Physio-Medical, 3; not reported, 1.

Union County.

Name.	*Post Office.*	*School.*
Fosdick, A. C.	Liberty	R. 10
Kell, S. D.	Liberty	R. 10
Morris, J. E.	Liberty	R. D
Moore, H. H	Liberty	R. D
PIGMAN, G	Liberty	R. D
Shriner, W. W	Liberty	E. 10
Sigler, George A	Liberty	R. D
Smith, J. A	Brownsville	R. 10
Thompson, E. C	Liberty	H. D
Williams, O. N	Lo us	H. 10

Regular, 7; Eclectic, 1; Homeopathic, 2.

Vanderburgh County.

Achilles, F. W	Evansville	R. D
Allen, L. R	Vanderb'gh Co.	R. 3
Alexander, Wm	Evansville	R. 3
Armistead, R. A	McCutchanville	R. 10
Bacon, C. P.	Evansville	R. D
Baldwin, J. J.	Evansville	E. D
Blount, J. F	Evansville	R. 10
Begley, B. W	Evansville	R. D
Bennett, A T.	Evansville	R. D
Binkley, J. T.	Evansville	R. D
Bartenwerfer, O. A.	Evansville	R. 10
Bray, M. J	Evansville	R. D
Brose, L. D	Evansville	R. D
Bryan, A. H	Evansville	R. D
Bryan, Tony	Evansville	R. D
Caldwell, Matilda	Evansville	N. R. 10
Carter, E. L.	Evansville	R. D
Compton, J. W	Evansville	R. D
Compton, F. S	Evansville	R. D
Corlew, R. M	Evansville	R. D
Cosby, G. P	Evansville	R. D
Couden, Wm. C	Evansville	H. D
Davis, F. L	Evansville	H. D
Day, B. J	Evansville	R. D
Dixon, H. T	Evansville	R. D
Dow, John L	Evansville	R. D
Failing, Walter	Evansville	R. 10
Fritsch, Ludwig	Evansville	R. 10
Fritsch, Wm. A	Evansville	R. D
Gilbert, George.	Evansville	R. 10
Graham, J. J	Evansville	E. 10
Green, W. S	Evansville	R. 3
Gumaer, C. H	Evansville	R. D
Gumberts, Simon.	Evansville	R. 10
Hartloff, Richard.	Evansville	R. D
Hayden, A. M	Evansville	R. D
Herr, L. S.	Evansville	H. D
Hodson, Geo	Evansville	R. D
Hooker, H. H.	Oakdon	R. 10
Hayhurst, A. S	Evansville	R. 10
Hendrick, H. W	Evansville	E. D
Henderson, S. C	Evansville	R. D
JACOBSOHN, JOS.	Evansville	R D
Illing, A. F	Evansville	R. 10
Kerth, J. H	Evansville	R. D
Knapp, Chas	Evansville	R. D
Laval, Wm. J	Evansville	R. D
Linthicum, Edw	Evansville	R. D
Laval, John	Evansville	R. 10
Maghee, Wm. H	Evansville	R. D
Macer, Thomas.	Evansville	E. D
McClurkin, J. C	Evansville	R. D
McClurkin, John.	Evansville	R. D
McCoy, P. Y	Evansville	R. D
McMahon, C. Agnes	Evansville	R. D
McCoy, B. F	Evansville	R. D
Marchand, V. H	Evansville	R. D
Minton, John C	McCutchanville	R. D
Mountonux, C. G. R		R. D
Mühlhausen, M.	Evansville	R. D
Meel, E. G	Evansville	R. D
Owen, A. M.	Evansville	R. D
Owen, John E	Evansville	R. D
Oehlman, C. L		R. D
Ottman, P	St. Joseph	R. D
Pirnat, John	Evansville	R. D
Penington, John J	Evansville	R. D
Pollard, Wm. S.	Evansville	R. D
Powell, T. E	Evansville	R. D
Pritchett, W: S.	Evansville	R. D
Ralston, W. G	Evansville	R. D
Reavis, W. J	Evansville	R D
Rose, W. B	Evansville	R. D
Rucker, Thos. H	Evansville	R. D
Ruark, S	Kratzville	R. D
Sawyer, F. W	Evansville	R. D
Schultz, Theo	Evansville	H. 10
Schuyler, Peter L	Evansville	R. D
Sieffert, A. H. H	Evansville	R. D
Spencer, Ethan.	Evansville	R. 10
Suiter, Wilhelmina	Evansville	R. 10
Taylor, T. H	Evansville	H. D
Tyrell, C. C	Evansville	H. D
Tillman, M	Evansville	R. 10
Vitzdomm, W	Evansville	R. 10
Walker, Edwin.	Evansville	R. D
Watkins, R. B	Evansville	R. D
Wedding, C. V	Evansville	R. D
Weever, John B	Evansville	R. D
Wilde, Otto E	Evansville	R. 10
Williams, Floyd	Evansville	R. D
Wilton, Isaiah	Evansville	R. D
Worsham, Ludson	Evansville	R. D
Witting, A. P.		R. D
Weber, Wm.	Evansville	R. 10
Yates, Geo. W	Evansville	R. 10
Young, G. M	Evansville	R. D

Regulars, 86; Eclectics, 3; Homeopathics, 6; Not Reported, 13.

Vigo County.

Name.	*Post Office.*	*School.*	
Armstrong, Wm. P	Terre Haute	R.	D
Askern, Cort. F	Terre Haute	R.	D
Allen, James L.	Terre Haute	H.	D
Austin, Hannah H	Terre Haute	R.	3
Brunker, James W	Riley	R.	D
Baldridge, John H	Terre Haute	E.	D
Ball, Lawrence S.	Prairieton	E.	D
Bennett, Stephen M	New Goshen	E.	D
Brown, Theodore F	Sandford	R.	3
Belt, Richard	Sandford	E.	D
Ball, Cutler F	Terre Haute	R.	D
Bates, Christopher C	Terre Haute	R.	D
Bradley, Robert H	Terre Haute	R.	D
Crowley, Thos. N.	Terre Haute	R.	D
Crapo, George W	Terre Haute	R.	D
Crapo, John R	Terre Haute	R.	D
Collings, Wm. O	Pimento	R.	D
Carson, Lewis E	Prairieton	R.	D
Caldwell, Henry H	Terre Haute	R.	10
Casto, Jabez C	Terre Haute	R.	D
Cole, Willis H	Terre Haute	R.	D
Carson, Julius C	Middletown	R.	D
Dooley, Rufus L	Atherton	R.	3
Dolson, James B	Pimento	R.	3
Drake, Thomas G	Terre Haute	R.	D
Dowell, Solomon	Middletown	E.	3
Elder, Wm. R	Terre Haute	H.	D
Eichelberger, Wm. C.	Terre Haute	R.	D
Everett, George H	Terre Haute	R.	D
Erskins, Amos C	Terre Haute	R.	D
Forcythe, Mary.	Terre Haute	R.	D
Ferris, Edmond	Terre Haute	R.	D
Gerstmeyer, Chas. P	Terre Haute	R.	D
Glover, Elmer E	Terre Haute	R.	D
Given, Chas. C	Lewis	R.	D
Gilmore. Andrew H	Terre Haute	E.	3
Griffith, Lewis C	Lockport	R.	D
Hickson, George W.	Terre Haute	R.	D
Hartley, Hiram J.	Terre Haute	R.	D
Hickman, C. W.	Fontanet	E.	D
Hyde, John.	Terre Haute	H.	3
Hanes, David.	Terre Haute	E.	10
Holloway, Theo	Terre Haute	R.	3
Haworth, W. W	Terre Haute	R.	D
Hendricks, H. W	Terre Haute	E.	D
Hunt, John S	Macksville	R.	D
Hunt, Stephen	Terre Haute	R.	D
Huff, John H	Sandford	R.	10
Jenkins, Wilbur O	Terre Haute	R.	D
Kennedy, Thos. W	Lewis	R.	D
King, William H	Fontanet	R.	10
Langhead, James T	Terre Haute	R.	D
Littlejohn, Henry C	Riley	R.	D
Larkins, Edgar L	Terre Haute	R.	D
Link, John E	Terre Haute	R.	D
Leachman, James S	Burnett.	R.	D
Melton, Seth B	Burnett.	R.	3
Moorhead, Thos. W	Terre Haute	R.	D
Mattox, Wm. R	Youngstown	R.	3
Morgan, John H	New Goshen	R.	D
Moore, Wilmot	Terre Haute	H.	D
Moore, James A	Prairie Creek.	R.	D
Mann, Henry D	Terre Haute	R.	D
Marlow, A	Terre Haute	E.	10
McCorkle, Thos. H	Ellsworth	R.	D
McLaughlin, James	Seeleyville	R.	D
McClain, Leslie	Terre Haute	R.	D
McJohnson, A. D.	Pimento	R.	D
Nibergall, James W	Prairie Creek.	R.	10
Ogle, Jacob W	Prairieton	R.	D
Preston, Samuel C	Terre Haute	R.	D
Pike, Lymon	Terre Haute	E.	10
Pence, Allen	Terre Haute. N.	R.	10
Pinson, Andrew J	New Goshen	R.	D
Poindexter	Nelson	R.	D
Patmore, John S	Terre Haute. N.	R.	10
Price, Wm. S	Atherton	R.	D
Pollitt, Francis M	Terre Haute	R.	D
Roberts, Wm. H	Terre Haute	R.	D
Russell, Charles W.	Riley	R.	D
Rice, Spencer M	Terre Haute	R.	D
Roberts, D. P	Terre Haute	R.	3
Swafford, Benj. F.	Terre Haute	R.	D
Spain, Archibald W	Terre Haute	R.	D
Shaley, Fred W	Terre Haute	R.	D
Stunkard, Thos. C	Terre Haute	R.	D
Swap, John H	Sandford	R.	10
Shickel, John F	Terre Haute	R.	10
Stark, Wm. I.	Coal Bluff	H.	D
Stock, Lewis	Lewis.	E.	D
Smith, Wm	Riley P. O	R.	3
Stewart, Harvey W.	Terre Haute	R.	D
Spencer, Wm. B	Terre Haute	R.	D
Stevenson, Wm. M	Terre Haute	R.	D
Standacker, Alb	Terre Haute	R.	3
Treat, Horace J.	Terre Haute.	P.-M.	D
Tobey, Orlando C.	Terre Haute	R.	D
Tomlin, Benj. F	Terre Haute	R.	D
Thompson, J. C.	Terre Haute	R.	D
Talbott, John M	Prairie Creek.	R.	10
Thompson, M. H	Prairie Creek.	R.	D
Tanner, Wm	Terre Haute	R.	D
Willien, Leon J	Terre Haute	R.	D
Walters, Moses H	Terre Haute	H.	D
WEINSTEIN, L. J.	Terre Haute	R.	D
Watkins, Samuel.	Terre Haute	R.	D
Worrell, Jonathan P	Terre Haute	R.	D
Wilson, Angeline L	Terre Haute	H.	D
Warren, Louis B	Terre Haute	R.	D
Williamson. John W	Terre Haute	E.	D
Willis, Stephen D	Terre Haute. N.	R.	10
Young, Stephen J	Terre Haute	R.	D

Regular, 88; Eclectic, 13; Homeopathic, 5; Physio-Medical, 1; not reported, 3.

Vermillion County.

Bogart, John	Clinton	R.	D
Barnes, Jr., Jas. A.	Gessie	R.	D
Flaugher, E. A.	Eugene	R.	D
HALL, M. L.	Newport	R.	D
Hall, Wm. I.	Gessie	R.	D
Harrison, John C.	Hillsdale	E.	D
Hood, Thos. C.	Dana	R.	D
Johnson, D. B.	Perrysville	R.	10
Keyes, O. M.	Dana	R.	D
Kindermann, Alex.	Eugene	R.	D
Lonsdale, T. N	St. Bernice	R.	D
Mack, Erastus	Hillsdale	E.	10
Nebeker, Henry	Clinton	R.	D
Newton, G. O.	Dana	R.	D
Patterson, W. P.	Toronto	R.	D
Shepard, Hiram	Dana	R.	D
Shepard, Lewis	Newport	R.	D
White, C. M.	Clinton	R.	D
Wallace, James	Newport	R.	D
Watkins, H. T	St. Bernice	E.	D
Webb, Jas. B	Perrysville	E.	10

Regular, 17; Eclectic, 4.

Wabash Couuty.

Name.	Post Office.	School.	
Ader, Henry	Sommerset	R.	D
Blount, Rufus F	Wabash	R.	D
Biggerstaff, James T	Lagro	R.	D
Broadbeck, Geo. H	Roan	R.	D
Brady, Thompson R	Wabash	R.	D
Brickler, Wm.	Lincolnville	E.	10
Bloomer, F. H	Lagro	R.	D
Brady, Cleason C.	Lincolnville	R.	D
Baker, Frank W	Wabash	H.	D
Dicken, James L	Lafountain	R.	D
Donaldson, E. F	Wabash	R.	D
Dicken, C. L	Lafountain	R.	D
Dunn, Wesley A	Wabash	H.	D
Ellis, Charles S.	Wabash	E.	10
Eckman, G. W	N. Manchester	R.	10
FORD, JAMES H	Wabash	R.	D
Ginther, David.	N. Manchester	R.	10
Goshorn, David G	N. Manchester	R.	10
Hale, Marcus M.	Wabash	R.	D
Hale, Nomian T	Wabash	R.	D
Hubbard, Elias	N. Manchester	R.	10
Jessup, Louisa F.	Wabash	R.	D
Kidd, Gideon P.	Roan	R.	D
Kantz, John	Spikes	R.	D
King, Cal. H	Rich Valley	R.	D
Minnich, Horace R.	Treaty	R.	D
Macy, Edwin E.	Roan	H.	D
Mooney, Henry E.	Laketon	R.	D
Modricker, John M.	Wabash	R.	3
Moore, Perry G.	Wabash	R.	D
Miesner, Harry E.	Servia	P. M.	D
Murphy, Ruben	South Wabash	R.	10
Martin, Wm H.	Urbanna	R.	D
Lower, Melvin O	N. Manchester	R.	D
Lancaster, Thos. J	N. Manchester	R.	D
McGren, Wm. H	Lafountain	E.	D
O'Neal, Laughlin	Sommerset	R.	D
Richards, John	Dora	R.	3
Renner, John H	Lagro	R.	D
Renner, Emanuel M.	Lagro	R.	D
Smith, Andrew J.	Wabash	R.	D
Studley, Joseph W	Lafountain	R.	D
Shaffer, Phillip	N. Manchester	R.	D
Stradley, Daniel M.	Wabash	R.	10
Shellhamer, Doctor C.	Puckerbrush	E.	D
Thomas, A. McD	Lafountain	R.	D
Wells, Wm. Y.	Laketon	R.	D
Winton, Horace	N. Manchester	R.	D

Regular, 39; Eclectic, 5; Homeopathic, 3; Physio-Medical, 1.

Warren County.

Brown, Nathan S.	State Line	R.	10
Campbell, T. B	West Lebanon	R.	D
DeHart, Jaoob	Williamsport	R.	D
Fenton S. C	Pine Village	R.	D
Fleming, Jackson	West Lebanon	R.	10
Green, W. H.	Hedrick	R.	D
Hoffman, Chas. H	Rainsville	R.	D
McMullen, J. W.	Pine Village	R.	3
MOORE, A. V	Williamsport	R.	D
Osburn, S. N	Rainsville	R.	D
Jones, J. W	Marshfield	R.	D
Porter, A. M	State Line	R.	D
Reid, S. M	Independence	R.	D
Roseberry, Isaac A	Independence	R.	3
Stuart, John C	Marshfield	R.	D
Swank, Leroy	Williamsport	R.	D
Trent, John H	Marshfield	R.	10
Vick, W. B	Green Hill	E.	D
Wicoff, R. H	Rainsville	E.	10

Regular, 17; Eclectic, 2.

Warrick County.

Bradley, John H	Folsomville	E.	10
Brown, A. P	Heilman	R.	3
Beeler, J. S.	Boonville.	H.	D
Camp, G. H	Lynville	E.	10
Camp, W. T	Lynville	E.	3
Camp, J. W,	Lynville	E.	10
Camp, W. O	Dickeyville.	R.	10
Daily, T. G	Boonville.	R.	10
DeForest, D. A	DeForest	R.	D
Edington, J	Yankeetown	R.	D
Grim, Simon	Elberfell	R.	D
Hewins, W. H	Chandler	R.	D
Headen, G. H.	Selvin	R.	10
Hunt, W. A.	Lynville	R.	10
Hammel, John	Elberfell	R.	D
Hart, L. H	Tennyson	R.	3
Hoover, P. N	Boonville.	H.	D
Howard, T. M	Boonville.	R.	D
Jones, T. B	Lynville	R.	D
Kiefer, Carlos,	Newburgh	R.	10
Keegan, C. J	Canal	R.	D
Lake, George	Newburgh	R.	D
Lamar, H. L	Boonville	H.	D
Mills, Wm. H.	Folsomville	R.	D
Magenheimer, P	Elberfell	R.	D
McVey W. H	Selvin	R.	10
McCool, H. F	Chandler	R.	D
Newton, J. A	Boonville	H.	D
Park, Chas	Boonville	R.	D
Patterson, P. N	Boonville	H.	10
Quiatt, Allison.	Tennyson	R.	10
Slaughter, W. W	Newburgh	R.	D
Smith, Thomas,	Canal.	R.	D
SCALES, W, B	Boonville	R.	D
Scales, T. D	Boonville	R.	D
Shaul, Monroe	Boonville	R.	D
Tilman, J. R	Newburgh	R.	10
Thompson, P. T	Newburgh	R.	D
Temple, W. R	Selvin	R.	10
Wilson, W	Yankeetown	R.	D
Watson, W. D	Tennyson.	R.	10
West, E. A	Folsomville	R.	10
Zimmerman, John	Lynville	R.	D

Regulars, 34; Eclectics, 4; Homeopathics, 5.

Washington County.

Name.	*Post Office.*	*School.*
Applegate, Geo.	South Boston.	N. R. 10
Baker, T. H. B	Pekin.	R. D
Brannock, B. B.	Little York.	R. 3
Barnett. John T	Hardinsburg	R. D
Bright, Will H	Martinsburg	R. D
Bradshaw, A. E	Halo	R. D
Bare, John R.	Salem	R. D
Crim, Martin	Salem	P.-M. 10
Duff, Samuel G.	Salem	R. D
Dewees, Geo. W	Fredericksburg.	R. 10
Doolittle, I. H	Campbellsburg.	R. D
Ferree, Isaac	Livonia	R. D
Hudson, Lycur. H	Little York.	E. D
Howard, Sam. B	Kossouth	R. 3
Hancock, George.	Campbellsburg	R. D
Herron, Thom. W	Little York.	R. 10
Hobbs, Havilla C	Salem	E. D
Harrod, Sam. B	Canton	R. D
Hoggatt, Mahlon L.	Salem.	E. 10
Hon, George W.	Hardinsburg	R. 10
Henderson. H. D	Salem.	R. D
Henderson, Jas. P	Salem.	R. D
Lockhart, Thos.	Campbellsburg.	R. 3
Layman, James H	Chestnut Hill.	R. 10
MURPHEY. C. W.	Salem	R. D
Martin, Rob't. W	Salem	R. D
Maxedon, Rob't. W	Hardinsburg	R. D
McPheeters, John S	Hardinsburg	R. D
Martin, Wm. H.	Campbellsburg	R. 10
Neyman, E. M. C.	Saltilloville	R. 10
Oatley, John H	N. Philadelphia	R. 10
Overman, William	Salem	P.-M. D
Overman. Edward T	Salem	P.-M. D
Paynter, C. L.	Salem	R. D
Perkhiser, Will J	Salem	R. D
Rathburn, Charles	Salem	R. 10
Roberts, Sam. A	Fredericksburg.	R. D
Spurgeon, A. M	South Boston.	R. D
Schoonover, Will S.	Hardinsburg	R. 10
Tucker, Thos. M	Salem	R. D
Voyles, Virgil A	Livonia.	R. 3
Wier, Alonzo G.	Kossuth	R. D

Regular, 35; Eclectic, 3; Physio-Medical, 3; Not Reported, 1.

Wayne County.

Name.	*Post Office.*	*School.*
Allen, John B	Hagerstown	R. D
Bond, Charles S	Richmond	R. D
Ballenger, Wm. L	Richmond	R. D
Baer. Oliver P	Richmond	H. D
Baldwin, Geo. C	Dalton	N. R. 3
Benham, Harvey C.	Richmond	E. D
Ballard, Nathan H	Richmond	R. D
Boyd, H. B	Cambridge City.	R. D
Bunnell, Rhodes W	Greensfork	R. D
Bapport, A	Richmond	R. 10
Boyd, Samuel S	Dublin	R. D
Buntin, Edwin A.	Greensfork	R. D
Balcom, Lafayette	Richmond	R. D
Carr, Oliver C	Boston	E. D
Colburn, Clarence P	Richmond	E. D
Canaday, N. F	Hagerstown	H. D
Clark, John M	Economy.	R. 10
Clark, J. B	Economy.	R. D
Carpenter, Daniel L	Camb. City	N. R. 10
Cowgill, G. J	Richmond	E. D
Dempsey, Wm. S	Richmond	R. D
Dwiggins, Moses F	Richmond	R. D
Davis, T. H	Richmond	H. D
Day, G. W	Dublin	H. 10
Emmons, Joshua.	Richmond	H. D
Gordon, G. C	Centerville	R. 10
Grosvenor, E. B	Richmond	H. D
Griffis, Wm. T	Whitewater.	E. D
Gabel, Harrison	Centerville	R. D
Graham. Wm. B	Cox's Mills	E. 3
HIBBARD JAS. F	Richmond	R. D
Harold, C. N	Richmond	P.-M. D
Hobbs. M. W	Richmond	R. D
Howells, Joseph	Richmond	H. D
Hadley, Edwin	Richmond	R. 10
Haynes. M. H	Richmond	R. D
Helm. Wm. M	Williamsburg	E. D
Homsher, Geo. W	Dublin	N. R. 10
Harris, John I	Fountain City	R. D
Hopkins, Robert R.	Richmond	R. D
Intzi, Joseph	Richmond	R. D
Johnson, M. F	Richmond	R. D
Jay, Wm. C.	Richmond	E. D
Johnson, L. C.	Fountain City	R. D
Johnson, Wm. A	Chester	E. D
Kelsey, L. S.	Richmond	R. D
Kelsey, C. A	Richmond	R. D
King, James E	Richmond	R. D
King, Wm. F	Centerville	R. D
Kersey, Silas H.	Centerville	R. D
Loar, Apollos	Richmond	P.-M. D
Luken, John H.	Richmond	R. D
Lowe, Geo. N.	Hagerstown	N. R. D
Lewis, Joseph V	Richmond	H. D
Moore, Chas. H	Richmond	R. D
Mendenhall, Wm. O	Richmond	R. D
Morrow, Sarah J	Richmond	R. 3
McDivitt. Eli G	Richmond	H. D
Murray, Nancy J.	Richmond	N. R. 3
Mauk, John R	Cambridge City.	R. D
Marshall, James V	Whitewater	R. 10
Meek, Joseph.	Webster.	R. 10
McClelland, J. S	Dublin	E. D
McTaggart, Chas	Dublin	E. D
Mann, Leonidas	Dublin	H. D
Neff, W. W	Greensfork	R. 3
Rusk, Anna P	Richmond	P. M. D
Robbins, Geo. W	Richmond	R. D
Reed, Wilson	Centerville.	N. R. D
Rogers, Sam'l G	Nettle Creek	E. D
Rife, John J	Boston	R. D
Rutledge, John W	Cambridge City.	R. D
Study, Joseph N	Cambridge City.	R. D
Sweeney, Isaac F	Milton	R. D
St, Clair, John W.	Milton	R. 10
Southworth, A	Dublin	H. D
Swallow, Jas. E.	Abington	R. D
Shoff, Jacob S	East Germant'n.	R. D
Summers, John B	Milton	R. D
Schiltneck, V. G	Economy	R. D
Scott, Wilson L.	Richmond	P. M. D
Taylor, James E	Richmond	R. D
Thomas, Mary F	Richmond	R. D
Thomas, Owen	Richmond	R. D
Teague, Isaac C	Richmond	H. 10
Taylor. Timothy W.	Fountain City	R. D
Tillson, Hosea	Centerville	R. 10
Taylor, L. B	Dublin	R. 10
Thurston, Eli H	Hagerstown	P. M. 10
Thurston, J. M	Hagerstown	P. M. D
Taylor, L. P	Williamsb'g	P. M. D
Watts, John S	Richmond	E. D
Watts, Eber K	Richmond	R. D
Wampler, John M	Richmond	R. 3
Weist, Jacob R	Richmond	R. D
Wright, I. E	Hagerstown	E. D
Witmer, Benj. M	Milton	E. 10
Wayman, James V	Cambridge City.	R. D
Williams, Wm	Whitewater.	E. 10

Regular, 58; Eclectic, 15; Homeopathic, 12; Physio-Medical, 7; not reported, 6.

Wells County.

Name.	*Post Office.*	*School.*	
Bugh, John W	Bluffton	—	—
Cassell, Geo. W.	Poneto	E.	3
COOK, LUZERN H	Bluffton	R.	D
Calderwood, George	Reiffsburg	E.	10
Crum, John W	Barber's Mills	R.	D
Conner, James L	Warren	—	—
Doster, Hezekiah.	Poneto	R.	D
Davenport, Evan B	Craigville.	R.	3
English, Calvin H	Uniondale	—	—
Fitzpatrick, Job D	Vera Cruz	—	—
Fulton, George E.	Bluffton	R.	D
Fulton, John C.	Bluffton	R.	3
Goodin, Samuel A	Nottingham	E.	3
Garrett, Frank W	Liberty Center	E.	3
Horton, Theodore	Bluffton	R.	10
Horton, Edwin R.	Bluffton	E.	D
Hatfield, Isaac N.	Bluffton	—	—
Huffman, David C	Liberty Center	—	—
Metts, John I.	Ossian	R.	3
Metts, Alfred H	Ossian	R.	3
Morris, Thos	Mt. Zion	R.	D
Murray, Lucian E	Zanesville	R.	D
Melching, Wm	Markle	—	—
Mason, Leonidas.	Bluffton	R.	D
Neff, Isaac N	Mt. Zion	—	—
Newman, M. N.	Ossian	E.	10
Spaulding, Leander A	Bluffton	E.	D
Weer, Harry H	Bluffton	E.	D
Waldron, R. A	Nottingham	E.	10
Walser, John A	Domestic	—	—

Regular, 12; Eclectic, 9; Not Reported, 9.

White County.

Name.	*Post Office.*	*School.*	
Abbott, R. F	Wolcott.	E.	10
Ballow, A. B	Burnettsville.	R.	D
Baugh, W. J	Chalmers	R.	D
CARR, JAMES L	Monon	R.	D
Cowger, S. R	Monticello	E.	D
Clark, R. J	Monticello	R.	D
Cooper, W. B	Monticello	R.	D
Clayton, Geo. R	Monon	R.	D
Didlake, M. T	Monticello	R.	D
Delzell, R. M	Reynolds	R.	D
Grant, F. A.	Wolcott.	R.	D
Jones, A. B.	Burnettsville.	R.	D
Kelley, D. M	Brookston	R.	D
McAllister, J. W	Idaville	R.	10
Medaris, John	Brookston	R.	10
Palmer, R. B	Idaville	E.	10
Reed, John H.	Idaville	R.	D
Reed, John T.	Monon	E.	10
Robinson, F. B	Monticello	E.	D
Scott, Caleb.	Monticello	P.-M.	10
Smith, J. T	Brookston	R.	D
Sluyter, S. D	Reynolds	E.	3
Sampson, W. H.	Brookston	E.	10
Small, H. E.	Wolcott.	E.	D
Towbridge, W. V	Burnettsville.	R.	D
Welta, Isadore	Sitka	P.-M.	10
West, Charles E	Buffalo	P.-M.	D

Regular, 16; Eclectic, 8; Physio-Medical, 3.

Whitley County.

Name.	*Post Office.*	*School.*	
Amerman, S. D	Columbia City	H.	D
Crisswell. H.	Cherubusco	R.	D
Coyl, W. H	Hecla	R.	D
Eberhard, Eli L.	South Whitley	R.	D
Ireland, Martin	Columbia City	R.	D
Kirkpatrick, Daniel	Larwill	R.	D
Kithoart, N. I.	Columbia City	R.	D
LAWRENCE, I. E.	Columbia City	R.	D
Linvill, D. G	Columbia City	R.	D
Linvill, D. S	Columbia City	R.	D
Linvill, L. M	Columbia City	R.	D
LaFollette, T. J.	South Whitley	R.	D
Merriman, E	South Whitley	R.	D
Magers, Francis M	Cherubusco	R.	D
Mitten, Allen P.	Columbia City	R.	D
Richards, John	Laud	E.	D
Squires, W	Cherubusco	R.	D
Scott, J. Wm. C.	Hecla	R.	D
Souders, Christian	Larwill	R.	D
Webster, D. E.	Larwill	R.	D
Webster, Monroe W	South Whitley	R.	D
Wenger, Noah R	Coesse	R.	D
White, K	Laud	R.	D
Williams, Chas. S.	Columbia City	R.	D
Weber, William	Columbia City	R.	D

Regular, 23; Eclectic, 1; Homeopathic, 1.

RECAPITULATION.

Regulars	3,243
Eclectics	387
Homeopathics	199
Physio-Medicals	142
Not Reported	192
Total	4,163

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